NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

THE PRICE AND PROGRESS OF COMPLIANCE WITH FEDERAL FINANCIAL MANAGEMENT REPORTING REQUIREMENTS IN DEPARTMENT OF THE NAVY PROPERTY, PLANT, AND EQUIPMENT NONFINANCIAL FEEDER SYSTEMS

by

Michael S. Burks

December 2000

Thesis Advisor:	O. Douglas Moses
Associate Advisor:	John E. Mutty

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The federal government holds an inherent responsibility to report on its financial management operations and consequent outcomes. The passage of the Chief Financial Officers Act of 1990 and subsequent fiscal reform legislation set forth a mandate for financial accountability through implementation of an integrated financial management system, preparation and audit of consolidated federal financial statements, and institution of government-wide strategic planning and performance measurement. The Department of Defense (DoD) remains the predominant noncompliant agency, and in 1999 acknowledged that archaic data feeder systems never intended to comply with accounting standards or integrate with financial management systems were the major obstacles to conformity. DoD estimates that 80 percent of relevant financial management data comes from these critical nonfinancial feeder systems. This thesis estimates the cost and progress of Property, Plant, and Equipment (PP&E) nonfinancial feeder system compliance within the Department of the Navy (DoN), which controls approximately 50 percent of DoD PP&E assets. Objective assessments of Real and Personal Property initiatives set a framework for examination of alternative strategies to overcome pervasive National Defense Asset reporting deficiencies. This thesis proposes a DoN strategic initiative to define, account for, and report National Defense PP&E in the absence of relevant federal accounting standards.

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THE PRICE AND PROGRESS OF COMPLIANCE WITH FEDERAL FINANCIAL MANAGEMENT REPORTING REQUIREMENTS IN DEPARTMENT OF THE NAVY PROPERTY, PLANT, AND EQUIPMENT NONFINANCIAL FEEDER SYSTEMS

Michael S. Burks
Captain, United States Marine Corps
B.A., University of Memphis, 1994

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requirements for the degree of

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December 2000

Author: _____
Michael S. Burks

Approved by: _____
O. Douglas Moses, Thesis Advisor

_____
John E. Mutty, Associate Advisor

_____
Reuben T. Harris, Chairman
Department of Systems Management

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LIST OF SYMBOLS, ACRONYMS, AND/OR ABBREVIATIONS

AICPA	American Institute of Certified Public Accountants
BFMIP	Biennial Financial Management Improvement Plan
CFO	Chief Financial Officers (Act)
CPA	Certified Public Accounting (Firm)
DFAS	Defense Finance and Accounting Service
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DPAS	Defense Property Accounting System
DoD	Department of Defense
DoDD	Department of Defense Directive
DoN	Department of the Navy
DONOMIT	DoN Organization Management and Infrastructure Team
EFD	Engineering Field Division
FACSO	Facilities Systems Office
FASAB	Federal Accounting Standards Advisory Board
FFMIA	Federal Financial Management Improvement Act
FMO	Office of Financial Operations
FY	Fiscal Year
GAAP	Generally Accepted Accounting Principles
GAO	General Accounting Office
GMRA	Government Management Reform Act
GPRA	Government Performance and Results Act
NFADB	Naval Facilities Asset Data Base
OMB	Office of Management and Budget
OMMC	Operation and Maintenance, Marine Corps
OMN	Operation and Maintenance, Navy
OPLOC	Operation Location
OPN	Other Procurement, Navy
PP&E	Property, Plant, and Equipment
RDTEN	Research, Development, Test, and Evaluation, Navy
SFFAS	Statements of Federal Financial Accounting Standards
SGL	Standard General Ledger
STARS	Standard Accounting and Reporting System

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I. INTRODUCTION

A. BACKGROUND

The United States Federal Government carries an inherent responsibility to report on its actions and their subsequent results and outcomes, as it exercises its power only through the consent of the governed. Federal financial reports represent essential data for governmental accountability to the public and its elected representatives, as well as for planning and executing government functions to the nation's greatest benefit. The establishment of the Federal Accounting Standards Advisory Board (FASAB), in conjunction with the passage of federal financial management reform legislation over the course of the past decade, beginning with the Chief Financial Officers (CFO) Act of 1990, laid the groundwork for the preparation and publication of such reports, in the form of standardized and audited federal financial statements.

The FASAB builds upon established accounting standards to set others that serve the government's unique organization and the information requirements of report users. Such standards define recognition and measurement of most assets, liabilities, expenses, and revenues, as well as the disclosure of related information such as the input of resources used by the government, the government output of goods and services, and the outcome and impact of governmental programs. They also create a process for evaluating the existing financial reporting systems of the federal government and for considering new standards and systems to enhance accountability and decision-making in a cost-effective manner.

Although the Department of the Treasury has prepared the executive agencies' consolidated financial statements of the federal government since fiscal year (FY) 1997, subsequent audits repeatedly demonstrate critical problems from fundamental recordkeeping errors, incomplete documentation, and weak internal controls. Material deficiencies surfacing during the auditing process thus far render the federal financial statements unreliable as sources of information for accountability or decision-making. The 24 reporting executive agencies do not share equal responsibility for the serious concerns addressed in the General Accounting Office (GAO) audits, however; the financial management deficiencies of the vast Department of Defense (DoD) constitute the greatest obstruction to receiving an unqualified audit opinion on the consolidated financial statements.

The Department of the Navy (DoN), as a major component of DoD, also remains unable to emerge successfully from the audit process. Without rephrasing the broad deficiencies noted above, it may be concluded that after a decade of preparation and several years of practice, the DoN continues to experience difficulty determining to required standards how much money it spends, what it spends money on, what property it has, where the property goes, or how much the property is worth. Still, for DoN Property, Plant, and Equipment (PP&E) assets, the current state of failure-in-compliance represents a significant and incremental improvement over the preceding years, and material progress continues in addressing longstanding, pervasive deficiencies, with major systems and process reengineering initiatives proposed and underway.

Currently, the priority for DoN financial management reform resides with the efforts to achieve compliance in nonfinancial feeder systems. The inclusion of such

feeder systems, the source of an estimated 80 percent of the data required to meet federal reporting requirements, is vital because proper and consistent asset accountability necessarily precedes effective financial management. In the Congressionally mandated rush to establish fiscal accountability, however, the necessity of capturing the cost of PP&E nonfinancial feeder system compliance has not been adequately addressed. In the current period of increasing Congressional oversight and fiscal constraint, such an assessment would serve to illustrate the price of compliance in terms of past and present reform strategy and initiatives, and would allow for an objective comparison of both the benefits of future success and subsequent reform proposals. Through the additional examination of current progress, it would also provide potential insight into the eventual total costs of full compliance or alternative prioritization strategies that achieve compliance at a lesser cost or with greater efficiency and effectiveness.

This thesis undertakes the effort of assessing the price and progress of the current DoN PP&E nonfinancial feeder system compliance initiatives in response to Federal Financial Reporting Requirements resulting from reform legislation initiated with the CFO Act of 1990. Through a comparison of implementation strategies and compliance initiatives in the major PP&E asset categories of Real Property, Personal Property, and National Defense Assets, the results will hopefully provide a perspective on past and present strategy and achievement that will improve future initiatives and results in addressing the financial management challenges yet to be overcome.

B. SCOPE AND OBJECTIVE

This thesis first examines the legislative imperatives for financial management reform and compliance with federal financial reporting requirements, illustrating the

significance of nonfinancial feeder systems to their success. It then scrutinizes the DoD compliance status and strategy for PP&E nonfinancial feeder systems, perhaps the most critical of such systems, focusing on functional concepts and PP&E definitions. Narrowing scope once more, this thesis addresses the specific price and progress of PP&E compliance initiatives within DoN, utilizing the Real Property and Personal Property implementation strategies as a comparative framework with which to examine National Defense Asset nonfinancial feeder system reform. Within this context, the thesis finally proposes conclusive definitions, and accounting and reporting standards, which will permit the timely, decisive implementation of National Defense Asset compliance measures.

The primary objective of this thesis entails answering the following question: What are the price and progress of the Department of the Navy's current initiatives to achieve compliance in PP&E nonfinancial feeder systems with Congressionally-mandated Federal Financial Reporting Requirements?

Secondary objectives consist of answering the following questions, all serving as precursors to the primary objective except the last, which arises as a consequence:

1) What collective legislation constitutes the Congressional mandate for financial management reform, and of what significance are these imperatives?
2) What is the status of consequent fiscal reform in the DoD?
3) What are the purposes, critical functions, and deficiencies of DoD nonfinancial feeder systems that render them so significant to fiscal reform?

4) What are the definitions, and accounting and reporting standards, for DoD PP&E?

5) What are the scope and the status of the DoD compliance initiatives for Real Property, Personal Property, and National Defense, major PP&E asset categories?

6) What is the DoN organizational strategy for achieving nonfinancial feeder system compliance?

7) What is the current situation and comparative progress achieved thus far under the respective Real Property, Personal Property, and National Defense PP&E categories?

8) What costs does DoN incur which cannot be specifically assigned to one of the nonfinancial feeder system compliance initiatives?

9) What is the price of DoN PP&E nonfinancial feeder system compliance when projecting funding requirements for implementation and sustainment?

10) How have projected funding requirements varied within DoN over the past year for PP&E nonfinancial feeder system compliance?

11) What measures must be taken to overcome the lack of progress and the extant controversy in National Defense Asset PP&E, and to efficiently and effectively implement the compliance initiative?

C. METHODOLOGY

To achieve these objectives, the methodology employed in this thesis consisted of archival, opinion, and analytical research elements to obtain the most comprehensive,

current, and relevant information pursuant to the dynamic, mounting imperative for federal fiscal reform. Archival aspects included a review of all official applicable Congressional legislation and executive agency regulation, concurrent with a search for pertinent literature sources among books, professional journals, public hearing reports, and various electronic media and storage systems. This eventually focused upon documentation concerning DoD and DoN nonfinancial feeder systems, as well as the status of ongoing compliance initiatives.

Opinion research entailed travel to Washington, D.C., and meetings with various DoN financial management officials involved with coordinating and executing implementation strategy and compliance initiatives. Foremost among these officials were Mr. Gregory Barber of the DoN Organization Management and Infrastructure Team (DONOMIT), Mr. Warren Pfeiffer and Mr. William Aldrich of the Office of Financial Operations (FMO), and Ms. Gladys Commons, Principal Deputy Assistant Secretary of the Navy (Financial Management and Comptroller). Their invaluable expertise permitted a perspective on current and future feeder system challenges unobtainable elsewhere, as well as access to information otherwise unpublished.

With the establishment of a comprehensive knowledge base, analytical research included the conceptualization and use of Real Property and Personal Property price, progress, and systems structure as a framework for comparison to study National Defense Asset PP&E. This permitted analysis of each major asset category, and National Defense Assets in particular, on qualitative and limited quantitative levels, as data allowed, in the pursuit of thesis objectives.

D. ORGANIZATION

This thesis is organized into six chapters. Following the introductory background and content information in Chapter I, Chapter II examines the legislative imperatives for financial management reform and compliance with federal financial reporting requirements, as well as the consequent current state of fiscal reform in DoD.

Chapter III scrutinizes the DoD compliance status of and strategies for PP&E nonfinancial feeder systems, the most critical system obstacles to short-term compliance with federal accounting and reporting standards, focusing on system functional concepts and PP&E definitions. It first introduces the three major asset categories of Real Property, Personal Property, and National Defense Asset PP&E, in the context of Statements of Federal Financial Accounting Standards.

Chapter IV narrows the scope once more, and endeavors to separately evaluate the progress achieved thus far under each of the DoN PP&E nonfinancial feeder system initiatives, in the context of both the differing system deficiencies in the asset categories and the Navy's organizational strategy for confronting them. The progress of the DoN in executing these financial management reforms reflects DoD Implementation Strategies and specific Navy priorities and organizational structures.

Chapter V considers those costs, again from a DoN perspective, incurred in the implementation and sustainment of the initiative outcomes. It also addresses the levels of funding committed thus far to the implementation strategies, which are not necessarily aligned with relevant cost projections. This chapter first examines the intricacies of federal funding and cost accounting practices, however, to illustrate the limitations to full cost estimates for specific compliance programs.

Chapter VI consists of a thesis summary, conclusions, and recommendations for further research. Notably, arising from the conclusions, this thesis finally proposes conclusive definitions, and accounting and reporting standards, which will permit the timely, decisive implementation of National Defense Asset compliance measures.

II. LEGISLATIVE ACTION & DOD RESPONSE

A. OVERVIEW

A comprehensive examination of the significance of nonfinancial feeder systems cannot proceed outside the context of congressional legislation enacted over the past decade mandating fiscal reform in the federal government. With the passage of the CFO Act in 1990 and subsequent financial management legislation throughout the next nine years, Congress required federal agencies to incrementally adjust their operations to reflect businesslike or corporate private sector practices, with substantial emphasis on proper reporting of financial data and production of auditable financial statements. The 1990 establishment and subsequent evolution of the FASAB also merit discussion as a relevant consequence of legislative action. Other major legislation that delineates financial management reform requirements includes the Government Performance and Results Act (GPRA) of 1993, the Government Management Reform Act (GMRA) of 1994, the Federal Financial Management Improvement Act (FFMIA) of 1996, and the National Defense Authorization Act of 1998.

The Acts exist as interrelated, if not integrated, legislative initiatives to clarify our accounting systems and provide Congress, federal managers, and the American taxpayers with superior financial information and demonstrated accountability for the use of tax revenues. Taken as a whole, the mandates constitute an enormous challenge to the federal agencies, and the DoD in particular, in the focused efforts to achieve the high standards now expected in federal financial management. This chapter examines these legislative imperatives for financial management reform and compliance with federal

financial reporting requirements, as well as the consequent current state of fiscal reform in DoD.

B. CHIEF FINANCIAL OFFICERS ACT OF 1990

With the passage of the CFO Act (Public Law 101-576), Congress set out a framework for general and financial management reform. It required the establishment of integrated federal agency accounting and financial management systems as the central component of that framework [Ref. 1:p. 44], to include the publication of federal financial reports and the codification of internal controls. The Act also established federal financial management leadership, positioning the Office of Management and Budget (OMB) Deputy Director for Management as the highest official responsible for federal financial management, forming the OMB Office of Federal Financial Management, and, most significantly, instituting chief financial officer positions in the operating federal departments and agencies.

These chief financial officers became responsible for the preparation of auditable financial statements to be consolidated with those of other departments and agencies, thus making them responsible in-part for the successful audit of the federal government financial report. Such financial statements required disclosure of departments' and agencies' financial positions and results of operations to publicize accountability over assets, allocation of taxpayer resources, and managerial performance for Congress, department and agency executives, and the public. The Act specifically tasked ten departments and agencies with producing auditable financial statements for FY 1996.

C. FEDERAL ACCOUNTING STANDARDS ADVISORY BOARD

Also in 1990, the establishment of the FASAB resulted from a joint initiative among the government's financial principals – the Department of the Treasury, the GAO, and OMB – to consider accounting principles and advocate standards advancing federal financial accountability and reporting. Further, on October 19, 1999, the American Institute of Certified Public Accountants (AICPA) officially recognized the FASAB as the entity designated to formalize accounting principles for federal government departments and agencies. This is particularly significant to the federal reporting entities, as the FASAB's Statements of Federal Financial Accounting Standards (SFFAS) now stand as the government equivalent of Generally Accepted Accounting Principles (GAAP). Thus, all auditing entities must now verify that federal financial statements are in compliance with the accounting standards issued by the FASAB as a prerequisite to any opinion on such financial statements as being in conformity with GAAP. [Ref. 2:p. 8]

D. GOVERNMENT PERFORMANCE AND RESULTS ACT OF 1993

Congress enacted the GPRA (Public Law 103-62) in 1993 to augment the reform measures initiated by the CFO Act. The GPRA heralded the employment of performance measurement throughout the federal government, developed from the now-mandated consolidated and audited financial statements of the departments and agencies. The development and use of such performance measures for the federal government remained analogous to financial ratios employed in the private sector, where the resulting conclusions permit analysis of the entities' relative financial condition. [Ref. 3:p. 35] Beginning in FY 1999, the GPRA required evidence of the development of strategic planning in each federal department and agency in the form of annual performance plans

containing specific performance goals for that year. A subsequent requirement was the annual submission of a program performance report to Congress and the President, comparing results achieved with goals established in the annual performance plan, with the report covering FY 1999 due by March 31, 2000. By requiring the federal entities to measure and publicize outputs and outcomes against planning objectives, the GPRA ostensibly further increased accountability and effectiveness, and thus public confidence, in the departments and agencies.

E. GOVERNMENT MANAGEMENT REFORM ACT OF 1994

The GMRA (Public Law 103-356) expanded the audit requirements of the CFO Act to include all 24 federal departments and agencies. It also accelerated the pace of federal financial reform by requiring preparation of the first true government-wide consolidated financial statement for FY 1997, as well as cutting the time for audit completion to within five months after the fiscal year to retain the relevance of the audit results. The expansion of the requirements for financial statement preparation and audit, the integration of accounting, budgetary, and program data, and employment of performance planning and reporting underscored the rising momentum in Congress to demonstrate fiscal efficiency and effectiveness in a climate of fiscal constraint.

F. FEDERAL FINANCIAL MANAGEMENT IMPROVEMENT ACT OF 1996

The FFMIA (Public Law 104-208) built upon the CFO Act, the GPRA, and the GMRA, and established a formal congressional mandate to implement and maintain financial management systems that materially conform to federal financial management systems requirements, to include the employment of a singular, integrated financial management system. This legislation specifically called for the full disclosure of all

federal financial data through such a system, to include the full costs of federal programs and activities, and thus allowed for their consideration based upon merits and full implementation costs. It also required the head of each federal department or agency to report to Congress by March 31 of each year on the status of all systems not in compliance with this directive, as well as the recommended corrective actions and the time frames for their implementation that will bring compliance within three years. [Ref. 4:pp. 400-403]

The FFMIA additionally expanded the definition for financial statement compliance to include conformity with the Department of the Treasury's U.S. Government Standard General Ledger (SGL) at the transaction level. The Department of the Treasury holds responsibility for the consolidation and publication of the government-wide federal financial statement, and the SGL standardizes federal accounting through its integration of budgetary (appropriated funds) and proprietary (financial) accounting systems. [Ref. 5:pp. 48, 49]

G. NATIONAL DEFENSE AUTHORIZATION ACT OF 1998

The FY 1998 Defense Authorization Act required the Department of Defense to establish a Biennial Financial Management Improvement Plan (BFMIP), to be submitted to the Congress no later than September 30 of each even-numbered year. The Authorization Act called for this strategic plan to address all aspects of DoD financial management, to include finance systems, accounting systems, and most significantly, DoD data feeder systems that support finance and accounting system functions. It also required the inclusion of a concept of operations in the BFMIP, identifying DoD financial management operations and the manner in which they are executed. Last, with regard to

data feeder systems, it mandated that the first submission of the plan present initiatives to consolidate and eliminate redundancy, to integrate with finance and accounting systems, and to define the costs, benefits, problems, and feasibility of implementing these efforts. [Ref. 6:pp. 250, 251] For reference, Table 2.1 summarizes the Acts and events that form the collective legislative imperative for federal financial management reform, presenting a significant challenge to DoD in particular with focused requirements to achieve the high established federal standards.

H. THE STATE OF DOD FISCAL REFORM

1. Audit Status

The five major legislative mandates and the Statements of Federal Financial Accounting Standards issued by the FASAB define the conditions the Department of Defense must meet, and thus the fiscal reform measures it must enact, to receive an unqualified audit opinion on its financial statements consolidated from those of the major DoD components. However, the GAO rendered a disclaimer of opinion on the FY 1997 government-wide financial statements when it issued its first such audit opinion in March 1998. With the disclaimer of opinion, the GAO cited material discrepancies considered "show-stopper" issues for five major categories, with property, plant, and equipment (PP&E) predominating among them. It addition, it specified that the material financial management deficiencies identified within DoD "...represent the single largest obstacle that must be effectively addressed to achieve an unqualified opinion on the U.S. government's consolidated financial statements." [Ref. 1:p. 1] FY 1998 government-wide financial statements also received a disclaimer of opinion for these recurrent discrepancies, although GAO noted some incremental progress.

Chief Financial Officers Act of 1990	• Established financial management reform framework • Required integrated federal agency financial systems • Required publication of auditable financial reports, codification of internal controls for ten federal agencies • Instituted chief financial officers in federal agencies
Federal Accounting Standards Advisory Board (1990)	• 1990 – Established to consider accounting principles and advocate standards advancing federal financial accountability and reporting • 1999 - Formally recognized as designated entity to establish official federal accounting and reporting standards • Verification of compliance with FASAB accounting standards required as a prerequisite to any audit opinion on federal financial statements as being in conformity with GAAP
Government Performance and Results Act of 1993	• Heralded use of performance measurement in government • Beginning in FY 1999, required evidence of strategic planning – annual performance plans with specific goals • Required agencies to measure and publicize outputs and outcomes against planning objectives
Government Management Reform Act of 1994	• Expanded CFO Act audit requirements to include all 24 federal agencies • Required preparation of first government-wide consolidated financial statement by FY 1997 • Decreased allowance time for federal financial statement audit completion to five months after the fiscal year
Federal Financial Management Improvement Act of 1996	• Formal mandate for agencies to implement and maintain a singular, integrated financial management system • Required full disclosure of all financial data, including full costs of programs and activities • Required agency heads to report status of all noncompliant systems, as well as corrective actions and time frames, to Congress annually • Expanded definition for compliance to include conformity with SGL at transaction level
National Defense Authorization Act of 1998	• Required DoD to establish BFMIP submitted to Congress • BFMIP required to address all aspects of DoD financial management, to include nonfinancial feeder systems supporting finance and accounting system functions • Mandated nonfinancial feeder system section of BFMIP present initiatives to consolidate, to integrate with financial management systems, and to determine the feasibility of implementing such reforms

Table 2-1. Summary of Federal Financial Management Legislative Acts and Events

The GAO rendered another disclaimer of opinion on the FY 1999 government-wide financial statements, although 13 of the 24 federal departments and agencies received unqualified audit opinions. The Office of the Inspector General, Department of Defense, rendered a disclaimer of opinion on the DoD FY 1999 consolidated financial statements, and once again the pervasive deficiencies in DoD financial management systems, operations, and controls proved the greatest impediment to the federal government's compliance. The reasons behind this conclusion become apparent when considering the magnitude of DoD operations – approximately $1 trillion in assets, almost $1 trillion in liabilities reported, and a $378 billion net cost of operations as of FY 1999 – and their subsequent immense impact on consolidated government financial reports.

Although neither DoD nor any of its major components yet holds any audit opinion on its financial statements outside a disclaimer of opinion, the Department, in truth, possesses substantial control of assets for which it is accountable and exacting records of the allocation of taxpayer resources entrusted to it. In DoD's voluntary 1999 update to the first BFMIP, it reported its reliance upon 168 systems to execute financial management operations, including 70 nonfinancial feeder systems critical to asset accountability and financial reporting requirements. DoD attributes the propensity of problems in obtaining an audit opinion and achieving compliance with FFMIA federal financial management systems requirements to this multitude of archaic data feeder systems never intended to comply with subsequent accounting standards, and thus not designed to integrate with DoD's financial management systems. Although DoD financial management systems also remain noncompliant with current federal

requirements, the Department estimates that 80 percent of the relevant financial management data comes from these critical nonfinancial feeder systems. [Ref. 1:pp. 44, 45]

2. Long-Term Reform Strategy

The Department of Defense long-term strategy for financial management reform recognizes the requirement for a comprehensive restructuring of management information systems within DoD. Its central focus rests in the reengineering or replacement of noncompliant financial and nonfinancial systems to achieve implementation of new federal accounting standards and full interface with other DoD financial and nonfinancial systems that transmit and receive data among them. The upgrade and integration of the nonfinancial feeder systems to meet federal reporting requirements and interface with DoD financial systems presents a particularly formidable challenge for three principle reasons:

1) The vast majority of such systems originate beyond the control of the financial management community.

2) The primary original purpose of the nonfinancial systems is the support of specific categories or communities of U.S. military forces, not the production and transmission of financial data.

3) The specialization of the majority of the nonfinancial feeder systems proves a substantial obstacle in terms of flexibility, preventing rapid responses to changes required by legislative mandates, management

initiatives, other government entities, operational contingencies, or the specific communities they serve. [Ref. 2:p. 9]

September 30, 2003 serves as the current target date to complete the transformation and achieve compliance in all DoD financial, accounting, and feeder systems.

The aforementioned BFMIP, first submitted to Congress in October 1998, represents the long-term architectural blueprint for DoD financial management reform, and comprehensively addresses accounting and finance issues. Voluntarily updated and submitted annually by DoD, the BFMIP addresses both financial systems and nonfinancial feeder systems, and establishes the DoD financial management concept of operations for the achievement of fiscal reform objectives. As a major development in the articulation of a long-term strategy, however, the BFMIP attempts to focus beyond compliance with federal reporting requirements to serve as a guide for the transition and evolution of DoD financial management systems, practices, and organizations. [Ref. 7: p. 11]

3. Short-Term Reform Strategy

The Department of Defense short-term strategy for financial management reform recognizes the requirement for the development of interim methodologies to a level of compliance in major accounts sufficient to obtain a more favorable audit opinion on the DoD consolidated financial statements. To this end, DoD developed Implementation Strategies to serve as this interim solution until compliant financial management and feeder systems are operational. This involved the engagement of the GAO, the OMB and the DoD Office of the Inspector General in a collaborative effort to identify major obstacles to DoD success and develop alternative techniques to deal with them. Short-

term strategies now exist to implement these alternative methodologies, which span the spectrum of financial and nonfinancial deficiencies, with milestone dates and organizations specified as accountable for executing the plans.

Major PP&E valuation reforms figure prominently among extant short-term strategies, and serve as relevant examples in this thesis, to be examined at length in the following chapter. Briefly, current federal accounting standards require PP&E reporting to employ acquisition, or historical costs, and subsequent depreciation. Auditors, in turn, require receipt or purchase documentation to verify these costs, but past federal record retention policies preclude satisfying stringent audit requirements. To alleviate such audit deficiencies, DoD contracted two prestigious private sector accounting firms to assess the value of DoD property in a manner acceptable to auditors. Also, DoD engaged both the accounting firms and the audit community to develop policy guidance and processes for the resolution of numerous and systemic accounting and feeder system deficiencies that currently preclude the capture, retention, and depreciation of PP&E asset costs. [Ref. 8:pp. 12, 13] Additionally, DoD continues work with accounting firms and the audit community, specifically including the FASAB accounting standard-setting entity, to develop further detailed policy guidance and definitions of PP&E that will assist major DoD components in identifying assets and reporting financial information not previously required and thus not yet provided. Within the DoD, the persistent lack of National Defense Asset PP&E accounting and reporting requirements remains the most significant and controversial example, and again a topic inherently relevant to this thesis, to be examined in several following chapters.

I. SUMMARY

Congressional legislation enacted over the past decade established an unprecedented mandate for financial management reform throughout the federal government. The first major legislation, the CFO Act passed in 1990, set out a framework for general and financial management reform that required the establishment of integrated federal agency accounting and financial management systems, the publication of federal financial reports, and the institution of chief financial officer positions in the operating federal departments and agencies. Also in 1990, the government's financial principals formed the FASAB to consider and recommend accounting principles and standards for federal financial accountability and reporting, which as of 1999 gained sanction as the formally recognized GAAP-equivalent accounting principles for federal government departments and agencies.

In 1993, the GPRA heralded the additional requirement for submission of annual performance plans and subsequent program performance reports to Congress and the President, comparing results achieved with goals established and thus measuring outcomes instead of inputs. The following year, the GMRA expanded the audit requirements of the CFO Act to include all 24 federal agencies, and accelerated the pace of federal financial reform by requiring preparation of the first true government-wide consolidated financial statement for FY 1997. The FFMIA built upon the CFO Act, the GPRA, and the GMRA in 1996, establishing a mandate for the full disclosure of all federal financial data through integrated financial management systems that materially conform to federal financial management systems requirements. It also required the head of each federal agency to report on the status of all noncompliant systems, as well as the

recommended corrective actions and the time frames for their implementation. Finally, the FY 1998 Defense Authorization Act called for DoD to submit a BFMIP addressing all aspects of DoD financial management, with the significant inclusion of DoD data feeder systems that support finance and accounting system functions.

Collectively, the major legislation and its consequent stringent accounting standards and reporting requirements present a formidable challenge to DoD in its endeavors to enact financial management reform. To a major extent, DoD now recognizes that a predominant obstacle to compliance resides in at least 70 nonfinancial feeder systems critical to asset accountability and financial reporting requirements that were neither intended to comply with then-nonexistent accounting standards nor to integrate with DoD financial management systems. The concept of operations articulated and updated in the BFMIP represents DoD's long-term strategy for financial management reform, addressing the full spectrum of accounting and finance issues, and focusing at present on the restructuring of financial and nonfinancial feeder systems, with a self-imposed deadline of September 30, 2003 to complete the transformation and achieve compliance in all DoD financial, accounting, and feeder systems. The short-term Implementation Strategies, however, represent a response to the Administration's goal, stated by the President in May 1998, of obtaining an unqualified audit opinion on the government-wide financial statements for FY 1999. Short-term strategy, in essence, focuses upon the development of interim methodologies for achieving sufficient compliance to obtain a more favorable audit opinion on the DoD consolidated financial statements until sustainable systems are operational, but the effort does effectively

engage both private sector accounting firms and the government audit community in collaborative efforts.

In consideration of the tremendous legislative and political pressures for fiscal reform, DoD has demonstrated significant progress on many fronts, coupled with and driven by legitimate commitment among the senior leadership in the financial management community from the DoD Comptroller to his major component counterparts. Pervasive, complex financial management problems remain, however, and DoD must maintain the reform momentum beyond the unqualified opinions as limited objectives of the Implementation Strategies if it is to institute systems and processes that provide compliant and consistent financial information for effective management. [Ref. 1:pp. 2, 3] The next chapter examines the major obstacle in nonfinancial feeder system compliance: PP&E accounting and reporting.

III. DOD NONFINANCIAL FEEDER SYSTEMS AND PROPERTY, PLANT AND EQUIPMENT REPORTING

A. OVERVIEW

The Department of Defense first published formal, comprehensive acknowledgment of major DoD nonfinancial feeder system noncompliance issues in the FY 1998 Biennial Financial Management Improvement Plan. The subsequent FY 1999 update focused on 70 such systems as critical to complying with federal financial management and reporting requirements. The management and reporting of DoD Property, Plant and Equipment constitutes the primary mission for perhaps the most critical nonfinancial feeder systems, which are charged with accountability of approximately $1 trillion in assets. In numerous situations during war and peace, this involves materiel for military commanders with vital requirements for asset awareness to effectively execute their missions, as well as the facilities that support them.

PP&E accounting and reporting proves so difficult and problematic precisely because the original purpose of these systems centers on the support of mission requirements. Their primary functions are detrimental to new demands for the same systems to serve as integrated accounting subsidiary ledgers and to provide financial data to generate financial statements compliant with federal mandates. Reporting financial information from such systems is critical to supporting mission requirements, however, providing such data as the cost of assets consumed, lost, or destroyed in operational contingencies that can serve as a basis for future decisions ranging from asset replacement to determination of resources, both financial and otherwise, to commit in future contingencies. As this example renders apparent, PP&E nonfinancial feeder

system issues encompass not only financial reporting requirements, but also asset management, accountability, and control.

A thorough examination of the DoD PP&E compliance status and strategy thus necessitates a comprehensive understanding of relevant nonfinancial feeder system functional concepts as well as PP&E definitions and current DoD compliance initiatives. This chapter scrutinizes the DoD compliance status of and strategies for PP&E nonfinancial feeder systems, the most critical system obstacles to short-term compliance with federal accounting and reporting standards, focusing on system functional concepts and PP&E definitions. It first introduces the three major asset categories of PP&E, in the context of Statements of Federal Financial Accounting Standards.

B. DOD NONFINANCIAL FEEDER SYSTEMS

Within the DoD, the term "nonfinancial feeder system" refers to program information systems, manual or automated, that provide (feed) data to systems of the Defense Finance and Accounting Service (DFAS). In response to the CFO Act and the formation of the FASAB, DoD established the DFAS in 1991 to serve as the primary agency for executing DoD finance, accounting, and financial reporting operations. The agency developed and implemented strategic initiatives to dramatically cut the number of DoD accounting and finance systems, while concurrently eliminating a number of operations centers for its disbursement and accounting functions. [Ref. 7:p. 4] While DFAS' reform strategies generated and will continue to generate significant dividends in efficiency and effectiveness, past initiatives did not address the issue of nonfinancial feeder systems as major obstacles to compliance with federal financial reporting requirements.

DFAS systems derive information from feeder systems for financial management and/or accounting purposes, obtaining vital data for the preparation of the consolidated DoD financial statements. Nonfinancial feeder systems primarily and originally served the requirements of major DoD components' operating forces and program managers, functioning outside the control of the financial management community. In recent years, however, these systems have become subject to the specific financial management and accounting requirements of the FFMIA of 1996 and the subsequent National Defense Authorization Act of 1998 due to the fact that the systems generate data that support DoD financial operations and thus the integrated financial management system objective. Since then, the federal auditors' disclaimers of opinion on the financial statements of all major DoD components in every requisite audit, due to feeder system deficiencies, demonstrate pervasive issues to address in current and future compliance initiatives. The major recurrent issues include the following:

1. Lack of Interface with Transaction-Driven General Ledgers

The lack of transaction-driven general ledger interface represents the most persistent deficiency named by the Department's financial auditors. Core financial systems controlled by the DFAS hold principal responsibility for implementing and maintaining SGL-conformant general ledgers. Accounts maintained in those core systems must record and reflect all DoD financial events and transactions. The DoD components' nonfinancial feeder systems first capture and record the great majority of such financial events and transactions, but the consequent financial effects are only recorded erratically in and reflected by the DFAS core financial systems.

No legislative mandate exists for SGL-conformant general ledgers to be

implemented and maintained within the nonfinancial feeder systems. Rather, they require that the feeder systems interface with DFAS core financial systems in such a manner that all necessary data will be recorded by and updated within the core systems. This integration requirement also includes the implementation of internal controls that permit core system account balances to be reconcilable to and supported by financial-related events and transactions captured and reported by the nonfinancial feeder systems. [Ref. 9:p. 49] DFAS supports the prioritized initiatives among the DoD components to develop the requisite feeder system interfaces. Their target date of September 30, 2003 for operational, interfacing, and SGL-conformant migratory core financial systems coincides with the greater DoD goal of compliance in all financial, accounting, and feeder systems. [Ref. 7:pp. 4, 11]

2. Summarized Transaction Data Deficiencies

Federal legislation requires the DFAS standard general ledger accounts to reflect all financial-related events and transactions, but it is infeasible, for both technological and budgetary reasons, to maintain a continuous feeder system interface that transmits every individual transaction directly to a core financial system. The DFAS core systems under development instead accept summarized transactions data. This will require modifying the nonfinancial feeder systems to capture and maintain data by standard financial transactions, and then to regularly transmit the summarized results to the DFAS core system SGL accounts. [Ref. 9:p. 49] More significantly, however, this implies that the interfacing nonfinancial feeder systems, outside the control of the financial community, will become the official systems for all entry of transaction data and maintenance of subsidiary details that support core financial system balances. For PP&E, the mandate

for summarized transaction data requires the capture and maintenance of PP&E transactions in the nonfinancial feeder systems, which then summarize and transmit such data on a periodic basis to the core financial systems. Effectively, the PP&E feeder systems must serve as databases that reconcile and detail respective SGL accounts in DFAS core financial systems.

3. Joint and Mixed Feeder Systems Deficiencies

The DFAS and the major DoD service components jointly operate a significant number of the 70 feeder systems acknowledged as critical. Of the joint feeder systems, some contain, control, and report both financial and nonfinancial information, and thus are designated as mixed systems. While DFAS holds responsibility for implementing and maintaining compliance upgrades affecting the feeder systems' financial components, the relevant service component remains accountable for the state of compliance of nonfinancial functions. The DFAS intends to consolidate the financial functions of a number of these joint and mixed systems into its core financial systems. This will leave the existing feeder systems entirely the responsibility of the service components – but still subject to federal financial management requirements for interface and integration with the separated functions now outside the services' cognizance. [Ref. 9:pp. 48, 49]

4. Lack of Financial Expertise in Communities Controlling Feeder Systems

This nonfinancial feeder system issue concerns the lack of financial management expertise and perspective within the operational and support communities that operate such systems. Financial management experts and specialists drafted the legislative

mandates for fiscal reform, established the applicable GAAP-equivalent accounting standards, and developed the long-term DoD strategies to achieve compliance articulated in the BFMIP, but the communities charged with interpreting requirements and concepts relevant to nonfinancial feeder systems do not possess the requisite financial management perspective or expertise necessary for implementation. [Ref. 9:p. 49] Thus, their ability and incentive to develop alternative systems, or to modify or consolidate extant systems to achieve compliance, remain limited and/or inadequate. Only within the past year, as the DoD formally recognized the magnitude of the nonfinancial feeder system problems and prioritized their correction, have compliance initiatives throughout DoD incorporated the expertise of DFAS, public accounting firms, and various government audit entities in conjunction with the oversight of DoD financial management senior leadership.

C. DOD PROPERTY, PLANT & EQUIPMENT DEFINITIONS AND INITIATIVES

The GAO estimates that approximately 80% of the information required for the preparation of the consolidated DoD financial statement originates in the Department's nonfinancial feeder systems, rendering the efforts to achieve compliance a priority that transcends the financial management community to encompass the DoD itself. Another GAO estimate holds the value of DoD PP&E as four times that possessed by the rest of the federal agencies – combined. [Ref. 7:pp. 3, 12] Thus DoD PP&E, valued at approximately $1 trillion dollars and dispersed across the world, reigns predominant among the "show-stopper" categories of material discrepancy issues cited by the GAO. This dispersion of PP&E, located on over 500 bases in 150 countries and territories throughout the world, reflects the magnitude, scope, and complexity of the DoD financial

management issues in PP&E accountability and reporting. Accomplishment of the DoD mission - to support and defend the Constitution of the United States and to provide for the common defense of the United States - is PP&E-intensive, involving diverse operations, contingencies, and supporting activities, each employing a vast multitude of assets which may be mobile, classified, and/or unique to the DoD. While the DoD possesses substantial accountability for such PP&E in terms of safeguarding and maintenance, numerous deficiencies and issues exist in financially accounting for the same PP&E in terms of documentation for acquisition costs, asset depreciation, and disposal dates, as well as internal controls.

1. FASAB PP&E Definitions and Accounting Standards

The FASAB issued Statement of Federal Financial Accounting Standards (SFFAS) No. 6, "*Accounting for Property, Plant, and Equipment,*" in November 1995. SFFAS No. 6 establishes standards for four categories of PP&E: General PP&E, Federal Mission (later restricted to National Defense) PP&E, Heritage Assets, and Stewardship Land. [Ref. 10:p. 518] General PP&E consists of tangible assets, including land, that meets the following criteria:

1) an estimated useful life of 2 years or more,
2) not intended for sale in the ordinary course of operations, and
3) acquired or constructed with the intention of being used, or being available for use, by the entity.

It also comprises assets acquired through capital leases, property owned by the reporting entity in the hands of others, and land rights. More relevant to the thesis, General PP&E further divides into two categories:

1) Real Property, including land, buildings and other structures, and

2) Personal Property, including equipment, vehicles, computers, and software.

SFFAS No. 6 requires General PP&E to be recorded at acquisition cost, to include costs incurred to bring assets into fully operational condition, and subsequently depreciated. When historical costs of existing assets cannot be determined, the standard calls for cost estimates based upon either the known historical cost of similar assets at acquisition or the current cost of similar assets discounted since the date of acquisition for inflationary effects. [Ref. 11:par. 21, 23-76]

SFFAS No. 6 collectively refers to National Defense PP&E, Heritage Assets, and Stewardship Land as Stewardship PP&E, although this term and its consequent reporting requirements in reference to National Defense PP&E has provoked serious controversy that remains unresolved. This controversy will be covered at length in following sections and chapters. Per the standard's definition, National Defense PP&E consists of weapons systems and weapons systems related items. Heritage Assets constitute a distinct category of PP&E due to unique status derived from one or more of the following characteristics: historical or natural significance; cultural, educational or artistic importance; or significant architectural characteristics. Stewardship Land, finally, comprises all federal government land that was previously public domain or donated to the government, other than that now considered General PP&E. [Ref. 11:par. 23-76]

SFFAS No. 8, "*Supplementary Stewardship Reporting*," issued in June 1996, defines the reporting requirements for National Defense PP&E, Heritage Assets, and Stewardship Land. Further examination of the latter two categories falls outside the

scope of the thesis, but SFFAS No. 8 requires National Defense PP&E to be reported by major type at either the historical cost or the latest acquisition cost in a Supplementary Stewardship Report accompanying the consolidated financial statements. SFFAS No. 8 also requires such National Defense PP&E acquisition costs to be treated as an expense, which thus precludes capitalization of costs and consequent reporting on the Balance Sheet. [Ref. 12:par. 23-76] Due to continued controversy over implementation of the FASAB's National Defense PP&E reporting requirements, however, DoD currently reports only quantities of National Defense assets in the Supplementary Stewardship Report.

2. DoD Implementation Strategy Compliance Initiatives

The DoD neither maintains accountability nor accounts for General PP&E with financial systems, but rather with nonfinancial feeder systems, such as property management and logistics systems. Such systems have effectively served their primary purpose, the support of specific operational mission requirements, but have been unable to satisfy the unforeseen legislative mandates for those same systems to record costs and dates of acquisition, improvement and disposition, or to calculate current year and accumulated depreciation. Also, until recently the DoD has disposed of supporting documentation for the acquisition costs of PP&E after six years and three months in accordance with the National Archives and Records Administration maximum federal document retention requirements, but in violation of current audit requirements. This deficiency effectively prevents auditors from verifying acquisition costs and validating reported values. [Ref. 8:pp. 12, 13]

With diverse nonfinancial feeder systems incapable of reporting financial

information as accounting subsidiary ledgers, and with essential acquisition documentation largely nonexistent, DoD required alternative methods to achieve compliance with federal financial management legislation. The DoD Implementation Strategies discussed in Chapter II specifically address such pervasive deficiencies and are designed to achieve interim solutions. The Implementation Strategies relevant to PP&E address the deficiencies identified by the auditors in past disclaimers of opinion. These compliance initiatives progress, with varied success, under the oversight and approval of DoD, OMB, and the government audit community.

a. Real Property

The federal audit community reviewed DoD Real Property databases as an element of this Implementation Strategy, and determined them reliable for both existence, with Real Property data maintained in the feeder systems traceable to extant physical assets, and completeness, with the proper extant physical assets recorded in the Real Property feeder systems. KPMG Peat Marwick and Price Waterhouse Coopers, certified public accounting (CPA) firms hired by the Department, assisted in the initiatives to evaluate current capitalization thresholds and accurately report Real Property values by reviewing, testing, and analyzing the relevant database information. In separate conclusions, the CPA firms recommended that:

1) DoD retain the current $100,000 capitalization threshold and depreciation recovery periods, but disconnect them from the Congress' investment and expense funding threshold utilized in annual appropriation acts, and
2) DoD accept the existing recorded costs and subsequently report them on the major components' financial statements.

On both counts, the Department accepted the CPA firms' recommendations, and issued implementation policy. [Ref. 13:pp. 44, 45]

Other concerns raised by the government auditors and the CPA firms, however, remain unresolved with the requirement for auditable financial statements in conformance with federal financial management accounting standards. Every Military Department possesses material deficiencies in Real Property accounting processes, procedures, and internal controls that require prioritization and correction. DoD compliance initiatives to address these weaknesses center on the timely and accurate capture and maintenance of acquisition data in the feeder systems, as well as the retention of required supporting documentation. Further, the DoD issued a formal Directive, DoDD 5000.nn, and a corresponding manual, "*Property, Plant and Equipment Accountability*," which articulates DoD policy and establishes specific responsibilities for PP&E accountability. The Directive's implementation also institutes other requirements for feeder system employment in the recording of PP&E acquisition, use, and disposal data, and the maintenance of mandatory minimum internal controls and supporting documentation. [Ref. 13:pp. 44, 45]

b. Personal Property

For this Implementation Strategy the DOD also contracted with the CPA firms, to conduct existence, completeness and valuation tests on the multitude of General PP&E Personal Property databases, in addition to an evaluation of Personal Property capitalization thresholds and depreciation recovery periods. However, the lack of CFO Act-compliant Personal Property feeder systems represented a major impediment to obtaining legitimate existence, completeness, and valuation results. DoD responded to

this fundamental deficiency with an initiative focused on the modification, upgrade, and deployment of the Defense Property Accounting System (DPAS) to achieve compliance with federal financial management system requirements. With the exception of certain Defense Agencies and the Air Force, all DoD components will employ DPAS as the sole Personal Property nonfinancial feeder system, with the capability to capture and maintain acquisition cost data and calculate depreciation. [Ref. 13:p. 45]

Although capitalization thresholds remained unchanged, major internal control and procedural deficiencies identified within the Military Departments also required resolution prior to testing for existence, completeness, and valuation. KPMG and Price Waterhouse Coopers concluded that correction called for modification of the Implementation Strategy approach itself, omitting valuation tests for immaterial Personal Property values on the financial statements, and instead concentrating finite resources on the pervasive weaknesses identified in the Personal Property feeder systems. DoD launched compliance initiatives to ensure the capitalization at acquisition cost of new Personal Property, and the retention of supporting documentation in accordance with revised financial management regulations. Corrections to internal control, process, and procedural deficiencies centered on the recording of additions, deletions, and modifications for Personal Property information in the requisite feeder systems. [Ref. 13:p. 45] DoD policy disseminated by DoDD 5000.nn establishes further specific requirements for Personal Property feeder system functionality.

c. National Defense Assets

Development of Implementation Strategy National Defense Asset initiatives to achieve compliance with federal financial management legislation remain

limited by a lack of consensus within the FASAB standard-establishing entity on National Defense PP&E accounting and reporting requirements. The original relevant SFFASs, No. 6 and No. 8, required the reporting of National Defense PP&E at either historical "total cost" or "latest acquisition cost." The latest acquisition cost valuation method, although never implemented for National Defense Assets, attempted to recognize the difficulties inherent in ascertaining the actual acquisition costs of individual assets acquired long ago by permitting the valuation of the full inventory of a specific weapon system at the acquisition cost of the last one. The FASAB attempted to alter the two standards in February 1998, issuing a 72-paragraph draft, "*Amendments to Accounting for Property, Plant, and Equipment.*" Among the relatively minor proposals was the following change:

> National Defense PP&E shall be reported in quantities by major types.... Reporting should also include data in nominal dollars on acquisition costs incurred for National Defense PP&E for the year being reported upon and the preceding four years. [Ref. 14:p. 37]

This proposal requires DoD to only report numbers of weapon systems and annual expenditures on new weapon systems. While such an alteration to the standards results in immediate "compliance," it eliminates any requirement to track or report the cost of the greater part of $1 trillion in particular assets, undermining initiatives to establish cost accounting systems and controls and violating the intent of federal financial management legislation.

The FASAB attempted to incorporate this material change to National Defense valuation, despite overwhelming external opposition, but Congress coerced the FASAB to withdraw its proposal. In October 1999, with the FASAB still incapable of

consensus on National Defense Asset accounting and reporting, the board committed to considering the conclusions and recommendations of an independent, contractual examination of alternative National Defense PP&E accounting and reporting methods, funded by the DoD. KPMG Peat Marwick, selected in January 2000, will submit a report exploring multiple alternatives to National Defense Asset accounting and reporting requirements, to include estimated costs and time frames for implementation. The scope of the study spans the DoD, and thus also mandates independent review and evaluation of the diverse acquisition methodologies extant among the Military Departments and Defense Agencies. [Ref. 13:p. 46] This initiative to define National Defense Asset accounting and reporting requirements, which of necessity must precede any Implementation Strategy to achieve compliance with any such requirements, possessed an original target completion date of September 30, 2000, but thus far remains unfinished.

D. SUMMARY

Department of Defense Property, Plant, and Equipment nonfinancial feeder systems account for approximately $1 trillion in assets, and the major impact of the data they capture and maintain on consolidated financial statements renders them critical to compliance with federal financial management and reporting requirements. These systems' original missions centered on the support of specific operational requirements. Compliant PP&E accounting and reporting proves so challenging because recent mandates have required the same systems to additionally serve as integrated accounting subsidiary ledgers and to provide vital financial data for DFAS core financial systems which are used for the preparation of the consolidated DoD financial statements. Federal

auditors' disclaimers of opinion on the financial statements arise in great part due to feeder system deficiencies, most prominently:

1) the lack of feeder system interface with DFAS transaction-driven general ledgers,
2) the erratic transmission, or absence, of summarized transactions data from feeder systems to DFAS core system SGL accounts,
3) the difficulties in separating and migrating joint and mixed systems where multiple entities hold responsibility for implementing federal financial management requirements for interface and integration, and
4) the lack of financial management expertise and perspective within the communities operating feeder systems.

Within the DoD, the dispersion, volume, and diversity of PP&E exacerbate difficulties in resolving financial management issues in PP&E accountability and reporting. FASAB-issued accounting standards, SFFASs No. 6 and No. 8, collectively define the relevant PP&E categories of Real Property, Personal Property, and National Defense Assets. With the prominent exception of National Defense PP&E, they adequately articulate accounting and reporting requirements. Due to numerous nonfinancial feeder systems incapable of reporting financial information as accounting subsidiary ledgers and largely nonexistent essential acquisition documentation, DoD has had to develop Implementation Strategies to address the deficiencies and achieve compliance with federal financial management legislation.

Auditors determined DoD Real Property databases to be reliable for both existence and completeness, and CPA firms concluded DoD should retain the current

$100,000 capitalization threshold and accept the current recorded costs as materially accurate. Personal Property, however, required the deployment of the Defense Property Accounting System (DPAS) to achieve compliance with federal financial management system requirements, as well as modification of the original Implementation Strategy approach. Both Real and Personal Property initiatives focused on internal control, process, and procedural deficiencies, and DoDD 5000.nn established formal policy and further requirements for feeder system employment.

National Defense Asset requirements for accountability and reporting remain unresolved, but an outcome to the controversial issue will lead to subsequent DoD initiatives to achieve feeder system compliance. After completion of the independent examination of the alternative approaches to accounting for and reporting National Defense PP&E, bureaucratic and political imperatives and proprieties will inevitably delay release and external scrutiny, for an indeterminate length of time, until senior leadership finds appropriate opportunity for consideration of conclusions and recommendations. The Implementation Strategies and the potential National Defense alternatives considered by the contractual examination therefore warrant timely, objective scrutiny, to be accomplished in the scope of this thesis by narrowing focus on a Military Department's execution of reform strategy. For the following chapter, this thesis centers on the specific initiatives and current progress in Department of the Navy PP&E nonfinancial feeder system compliance, in the context of DoD Implementation Strategies for Real Property, Personal Property, and National Defense.

IV. CURRENT DON PROGRESS IN PP&E NONFINANCIAL FEEDER SYSTEM COMPLIANCE

A. OVERVIEW

Examination of DoN initiatives and current progress in PP&E nonfinancial feeder system compliance requires the context of legislative requirements and DoD compliance strategies respectively established in Chapters II and III. This chapter endeavors to separately evaluate the progress achieved thus far under each of the PP&E nonfinancial feeder system initiatives, in the context of both the differing system deficiencies in the asset categories and the Navy's organizational strategy for confronting them. The progress of the DoN in executing these financial management reforms reflects not only the DoD Implementation Strategies and the status of subsequent initiatives, but also specific Navy priorities and organizational structures. FY 2000 marks the fifth DoN Annual Financial Statement submitted under the CFO Act requirements, and while auditors continued to issue disclaimers of opinion as of FY 1999, they have noted measurable progress with each successive report. PP&E nonfinancial feeder systems remain the most critical obstacles to continued progress and eventual compliance with federal financial management reform requirements.

Charles P. Nemfakos, Senior Civilian Official for the Office of the Assistant Secretary of the Navy (Financial Management and Comptroller), recognized in the FY 1999 DoN Annual Financial Report the critical need for addressing these issues as identified in the Biennial Financial Management Improvement Plan and the Implementation Strategies. He states in his official introductory message:

> The DoN is creating an environment where new structures, processes, and systems can be developed that will enable the enterprise to operate effectively in the rapidly changing global environment. The old map of business stovepipes and business-as-usual no longer accurately reflects contemporary thinking. Rather than turning inwardly for the answers to the enterprise challenge, senior leadership is being encouraged to think cross-functionally and look to the outside environment for creative solutions and best practices. [Ref. 15]

This strategic imperative at the Navy level to consider cross-functional and private sector solutions to achieve compliance with federal reporting requirements resulted in the establishment of focused working groups to separately confront the challenges. The disparate status of the respective systems addressed by each working group resulted in diverse levels of resources dedicated to effect resolution, as well as different approaches to address the magnitude of the deficiencies. Regardless, the Navy's specific organizational strategy demonstrates an institutional commitment to the achievement of a functional financial management system, and their current progress in nonfinancial feeder system compliance reflects the DoN momentum for fiscal reform.

B. DON FINANCIAL MANAGEMENT ORGANIZATIONAL INITIATIVES

DoN established 13 Nonfinancial Feeder System Working Groups in response to the two DoD compliance approaches published in 1998: the Biennial Financial Management Improvement Plan, defining the future DoD financial management environment with a concept of operations for achieving it, and the Implementation Strategies, supporting the Administration's public goal of an auditable consolidated federal financial statement with requirements for submitting corrective action plans. The sustained efforts of the Working Groups fell under the cognizance of the Deputy Undersecretary of the Navy, receiving prioritization in resources to an extent

unprecedented in DoN financial management history. In turn, the Navy holds each team responsible for "...assessing, developing alternatives, and implementing the solution that will lead to better business processes, full accountability of our assets and ultimately, auditable financial statements." [Ref. 16:p. 28]

DoN organized Working Groups to address each of the DoD Implementation Strategies relevant to the Navy. A flag officer or senior DoN civilian heads each Working Group, which consists of program and financial management functional area experts from the Secretariat, Navy and Marine Corps Headquarters, Defense Agencies, private sector contractors, and the audit community (GAO, DoD Inspector General, and Naval Audit Service). The invaluable presence of the audit community representatives, a unique aspect of the Navy's organizational structure and strategy, allows the validation of alternative resolution measures from their perspective as the teams consider them. [Ref. 17:p. 26] DoN Working Groups relevant to the focus of this thesis include the Real Property, Personal Property, and National Defense Asset teams.

The team initiatives initially progressed slowly, attributable to the diverse backgrounds and perspectives of the assembled functional area experts. During FY 1999, the Working Groups assessed the requirements for the implementation of alternative business practices and the elimination of redundant and manually intensive systems. This examination prioritized the achievement of the Administration's goal of auditable financial statements, but also considered the modifications essential for remaining migratory systems to comply with federal accounting standards and system reporting requirements. All three PP&E Working Groups registered progress, but the current status of their respective compliance initiatives varies significantly, due to dramatically

different levels of deficiencies extant within each asset category and the corresponding complexity of the corrective strategy.

C. REAL PROPERTY

1. Situation

The Navy employs one standard nonfinancial feeder system for Real Property accountability and financial reporting purposes, the Naval Facilities Asset Database (NFADB), which serves as the DoN's central repository for building and land asset inventories. This extant standard system renders Real Property the least complex of the three categories in terms of achieving compliance with federal accounting standards and reporting requirements. In its primary mission supporting the engineering and public works communities, the NFADB database also serves in the efficient planning and management of shore facilities, funding for building new and removing excess facilities, Real Property maintenance, and base realignment. [Ref. 18:p. 1-4]

Currently, NFADB maintains an automated data file on every existing facility, to include land, buildings, structures, and utilities owned or leased by DoN. The system contains records on over 176,000 individual Real Property assets, classified and defined by location, acquisition date and cost, construction, size, capacity, utilization, and condition data fields. Formerly, access to update and query the master NFADB database, located at the Facilities Systems Office (FACSO) in Port Hueneme, California, only existed at the five Engineering Field Divisions (EFDs) and the FACSO itself. Only remote job entry terminals located at the Naval Facilities Engineering Command Headquarters and the five EFDs could request and retrieve NFADB reports, which contained the critical data call responses. [Ref. 18:pp. 1-2, 1-3]

For FY 1999 financial statement reporting, DoN still obtained Real Property data from NFADB via the archaic data call. Compliance with federal financial reporting requirements calls for nothing less than full interface with DoN/DFAS core financial systems as an integrated component. Table 4-1 [After Ref. 16:pp. 63, 64] illustrates the net ending Real Property PP&E balance as calculated for FY 1999 as a component of General PP&E.

2. Progress

Initiatives in FY 1999 focused primarily upon the accuracy of nonfinancial feeder system data, in terms of existence, completeness, and valuation, and the consideration of alternatives to achieve system compliance with federal accounting standards. DoN Civil Engineers and Public Works personnel physically inspected and measured buildings and land assets, and conducted an extensive search for requisite property records, some of which pre-date the Civil War. The private sector CPA firm Price Waterhouse Coopers statistically sampled different properties to obtain a reasonable estimate of value for financial reporting purposes. Government and private sector auditors followed with facility visits to validate the surveys, again measuring and examining required documentation. [Ref. 17:pp. 26, 27] These initiatives proved successful, resulting in a determination of reliability from the auditors for the NFADB in terms of existence, completeness, and material accuracy of current recorded costs. GAO and the DoD Inspector General do not yet concur with this conclusion, however, leaving the next course of action in question.

The team also identified the NFADB modifications required to calculate depreciation and establish internal controls necessary for the long-term sustainment of

Department of the Navy General PP&E, Net ($ in Thousands)					
	Depreciation/ Amortization	Service Life (Years)	Acquisition Value	Accumulated Deprec./Amort.	Net Book Value
Real Property (1)					
Land	Not Applicable	Not Applicable	$705,759	Not Applicable	$705,759
Buildings, Structures, & Facilities	Straight-Line	20 or 40	25,459,744	(11,173,605)	14,286,139
Leasehold Improvements (2)	Straight-Line	Lease Term	0	0	0
Total Real Property			**26,165,503**	**(11,173,605)**	**14,991,898**
Personal Property (3)					
ADP Software	Straight-Line	10	1,600	(800)	800
Equipment (4)	Straight-Line	5 or 10	9,126,054	(1,339,511)	7,786,543
Total Personal Property			**9,127,654**	**(1,340,311)**	**7,787,343**
Construction-in-Progress (5)	Not Applicable	Not Applicable	4,561,235	Not Applicable	4,561,235
Total General PP&E			**$39,854,392**	**($12,513,916)**	**$27,340,476**

Table 4-1. DoN General PP&E

Notes:

1) Real Property. These amounts do not reflect DoN implementation of the Preponderant Use Policy as set forth by the Under Secretary of Defense (Comptroller) in 1999. The policy requires DoN to report predominantly used assets owned by other DoD components only when the cost of those assets, taken as a whole, are material to DoN's financial statements. The NFADB is under evaluation to determine recurring requirements for preponderant use assignment and functionality. These amounts do include Real Property in the possession of contractors.

2) Leasehold Improvements. DoN reported no separate leasehold improvements for FY 1999, instead including them in the buildings, structures, and facilities category. The requirement to separately identify this asset category came after dissemination of the data call. DoN intends to rectify this deficiency for FY 2000 financial statements.

3) Personal Property. These amounts do not reflect DoN Personal Property in the possession of contractors. Although consideration of assets in the possession of contractors falls outside the scope of this thesis, DoN is evaluating processes to collect this information.

4) Equipment. Of the $9,126,054 total acquisition value, inadequate information precluded the calculation of depreciation, and thus the reporting of depreciation expense and accumulated depreciation on $6,689,525 of the total. Where sufficient information existed to facilitate depreciation computation, it accounts for no residual value.

accurate financial reporting, and implemented the modifications in FY 2000, with validation testing currently underway. NFADB programmers eliminated many of the external controls and processing requirements that prohibited system interfaces, but Navy reporting activities granted updating access to NFADB must still work through and obtain FACSO passwords from the EFDs, who determine the functionality each activity will possess as an Expanded Access Site. Future web-based interface will allow read-only access, however. A separate FY 2000 Real Property initiative in conjunction with the Defense Finance and Accounting Service (DFAS) concerned the development of an electronic interface with the Navy's Standard Accounting and Reporting System (STARS), with completion and testing currently expected in the March 2001 timeframe. Figure 4-1 illustrates the NFADB reporting processes as they ostensibly function with the current level of DoN progress in addressing the nonfinancial feeder system's deficiencies and achieving Real Property financial reporting compliance.

D. PERSONAL PROPERTY

1. Situation

The Personal Property category presents substantially greater complexity in addressing deficiencies, because the vital financial reporting data resides in a multitude of disparate, noncompliant nonfinancial feeder systems from which DFAS Operations Locations (OPLOCs) manually collect questionable data. DoN, as a result, elected to commit resources to the DoD initiative to modify, upgrade, and deploy the Defense Property Accounting System (DPAS) to achieve compliance with federal financial management system requirements, instead of attempting to modify hundreds of stovepipe systems and obtaining only marginal accountability improvement. [Ref. 16:p. 29]

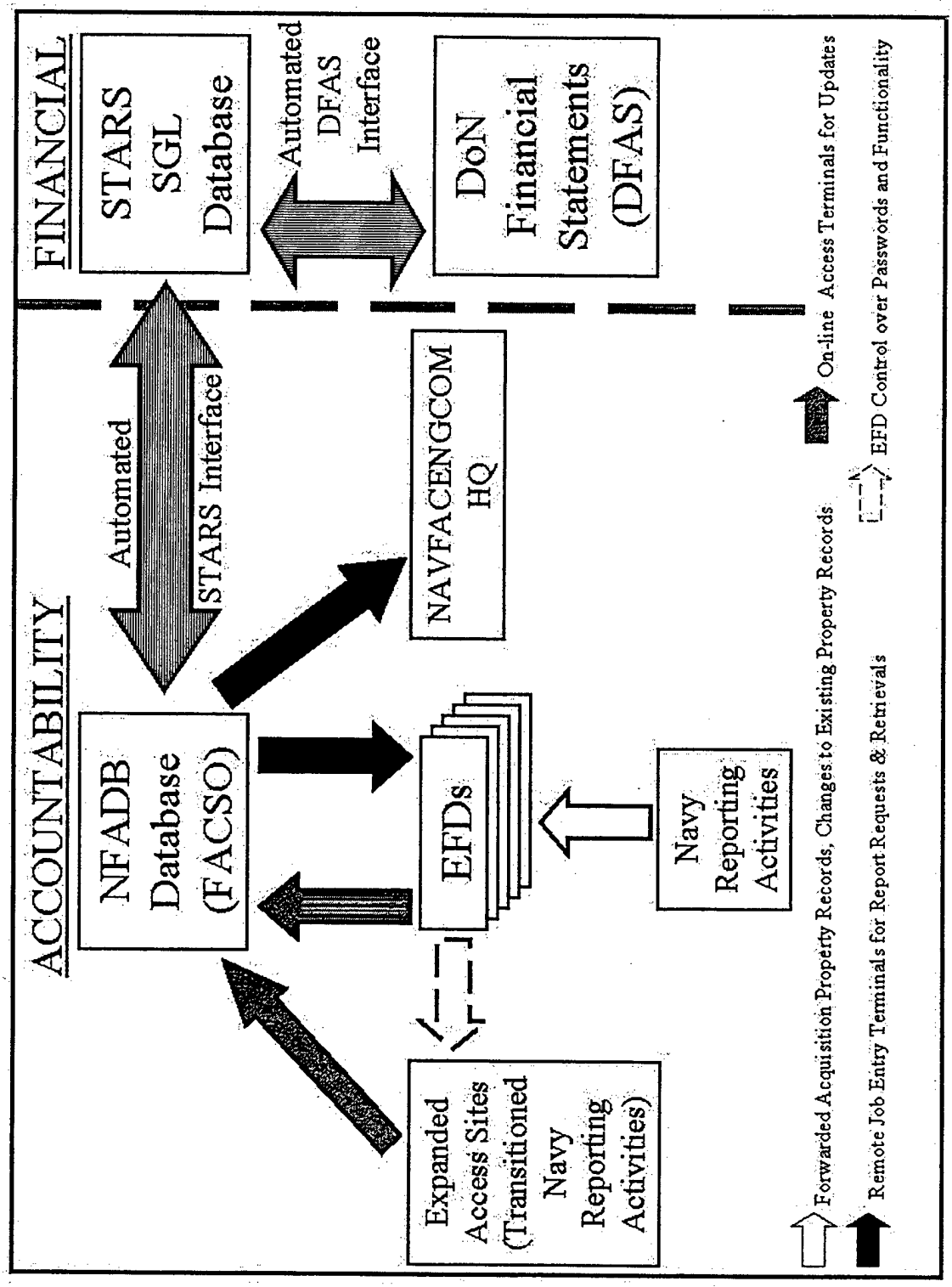

Figure 4-1. Naval Facilities Asset Database (NFADB) Reporting Processes

DPAS utilizes an on-line, multifunctional, and interactive systems environment to address property accountability, property valuation, equipment utilization, and preventive maintenance scheduling. Beyond its interface with DoN and DFAS automated financial systems, DPAS possesses the capability to capture and maintain acquisition cost data and calculate depreciation, to support all property and equipment management and accountability requirements [Ref. 19], and thus to eventually function as the sole Personal Property nonfinancial feeder system. However, its implementation represents a systemic change in DoN business culture and processes. Table 4-1 also illustrates the net ending Personal Property PP&E balance as calculated for FY 1999 as a component of General PP&E.

2. Progress

The DoD DPAS initiative focused on capital assets, those with an acquisition value of at least $100,000. DoN, however, pursued DPAS implementation as a chance to fundamentally revolutionize Personal Property accountability and financial reporting, and exponentially increased the number of assets to be accounted for with the system by incorporating the minimum Personal Property accountability threshold of $2,500. DoD granted its full support to the more ambitious DoN initiative in FY 1999, and in an unprecedented action the audit community followed suit. [Ref. 17:p. 27] DoN contracted with KPMG Peat Marwick to conduct an independent assessment of Personal Property data accuracy to determine reliability for existence and completeness, as with Real Property in the NFADB. The firm's study remains incomplete, complicated exponentially in comparison to the Real Property assessment due to the multitude of different nonfinancial feeder systems and the data transfer with DPAS implementation.

However, since the DPAS compliance initiative now requires complete physical inventories before data transition can occur, existence and completeness of data will be largely ensured upon implementation of the nonfinancial feeder system.

In FY 1999, the Marine Corps deployed DPAS in approximately nine months, although some activities later revised physical inventories and reviewed the accuracy of their databases in FY 2000, due to the lack of catalogs and standard operating procedures at implementation. The Navy will deploy DPAS at more than 900 activities, with priority thus far given to those activities accounting for the majority of capitalized assets with an acquisition cost of $100,000 or more. As of December 2000, approximately 200 DoN activities employ DPAS, including 33 Marine Corps sites. DPAS will eventually maintain all DoN equipment property records, although the data conversion process to inventory and reconcile each activity's Personal Property records, and to obtain accurate historical cost data, will not conclude until FY 2003, by latest projections. [Ref. 16:p. 63]

The ambition and scope of the DoN DPAS implementation initiative called for the support of the Defense Logistics Agency (DLA), the DFAS, the Defense Information Systems Agency (DISA), the government audit community, and the CPA firm KPMG Peat Marwick. Deployment of a nonfinancial feeder system entirely new to the Navy consequently required the development of alternative Personal Property policies, operating procedures, and internal controls. Official release of the resulting DoN DPAS Users' Guide is imminent, expected by January 2001. Collateral projects continued in FY 2000 for the establishment of a comprehensive Personal Property catalog, a standard barcode system, and extensive, sustainable personnel training curriculums and computer-

assisted tutorials. [Ref. 16: pp. 29,30] Currently, Personal Property catalogs for the Navy and Marine Corps are operational, but remain works-in-progress.

Achieving progress in Personal Property compliance initiatives, as previously mentioned, presented a higher level of complexity than that experienced in Real Property reforms. The implementation of DPAS eliminated the difficulties inherent in addressing the deficiencies of over a hundred stovepipe nonfinancial feeder systems, but the process of the DPAS transition itself has proven a substantial, complex obstacle to compliance. A diverse array of challenges confronted the implementation process, with institutional resistance to change figuring prominently among the difficulties. Unlike the Real Property initiative, where operational communities required only the modification of an extant, compliant system, the Personal Property initiative necessitated a fundamental paradigm and technology shift at every activity maintaining a Personal Property database. High operating tempos and personnel shortfalls also presented a tangible problem, with activities unable or unwilling to commit personnel to the accurate physical inventory of vast quantities of Personal Property assets essential for the transition of data into DPAS. Technological issues comprised a further material impediment, due primarily to DPAS interface requirements using the activities' extant computer networks. With the multitude of unique network "firewalls" employed throughout the DoN, and the variable competence and cooperativeness of their attendant network security personnel, implementation of DPAS' networking capabilities represented a pervasive, recurrent obstacle. Despite these and other less prevalent difficulties, DPAS implementation continues and the Personal Property initiatives proceed with measurable progress. Figure

4-2 [After Ref. 20:p. 12] illustrates the fundamental differences in reporting processes between the partially realized DPAS implementation model and the still-functioning DFAS "OPLOC Model," where DFAS OPLOCs manually collect critical financial information from a diverse array of stovepipe databases and systems employed by the reporting activities.

E. NATIONAL DEFENSE PP&E

1. Situation

The National Defense Asset category presents the greatest complexity and challenge to the achievement of compliance with federal accounting standards and reporting requirements. The FASAB established no government GAAP-equivalent standard for defining, accounting for, or reporting National Defense PP&E after their abortive attempt in 1998, leaving the DoN without conclusive guidance. Further, at the initiative's outset, the Navy possessed no evaluation of the compliance status of the multiple extant National Defense nonfinancial feeder systems in operation, as did the Real Property team with NFADB, nor a single new integrated system to implement as a replacement for the current noncompliant databases, as did the Personal Property team with DPAS.

In the absence of other enforced standards from the FASAB and at the standard-setting body's encouragement, DoD preempted the adoption of the FY 1998 proposed amendments to Statements of Federal Financial Accounting Standards (SFFASs) Nos. 6 and 8, as discussed in Chapter III, by implementing the proposal's permissive National Defense reporting requirements. The FASAB did not adopt the amendments, but the DoD, and thus the DoN, reported only major types of National Defense assets by

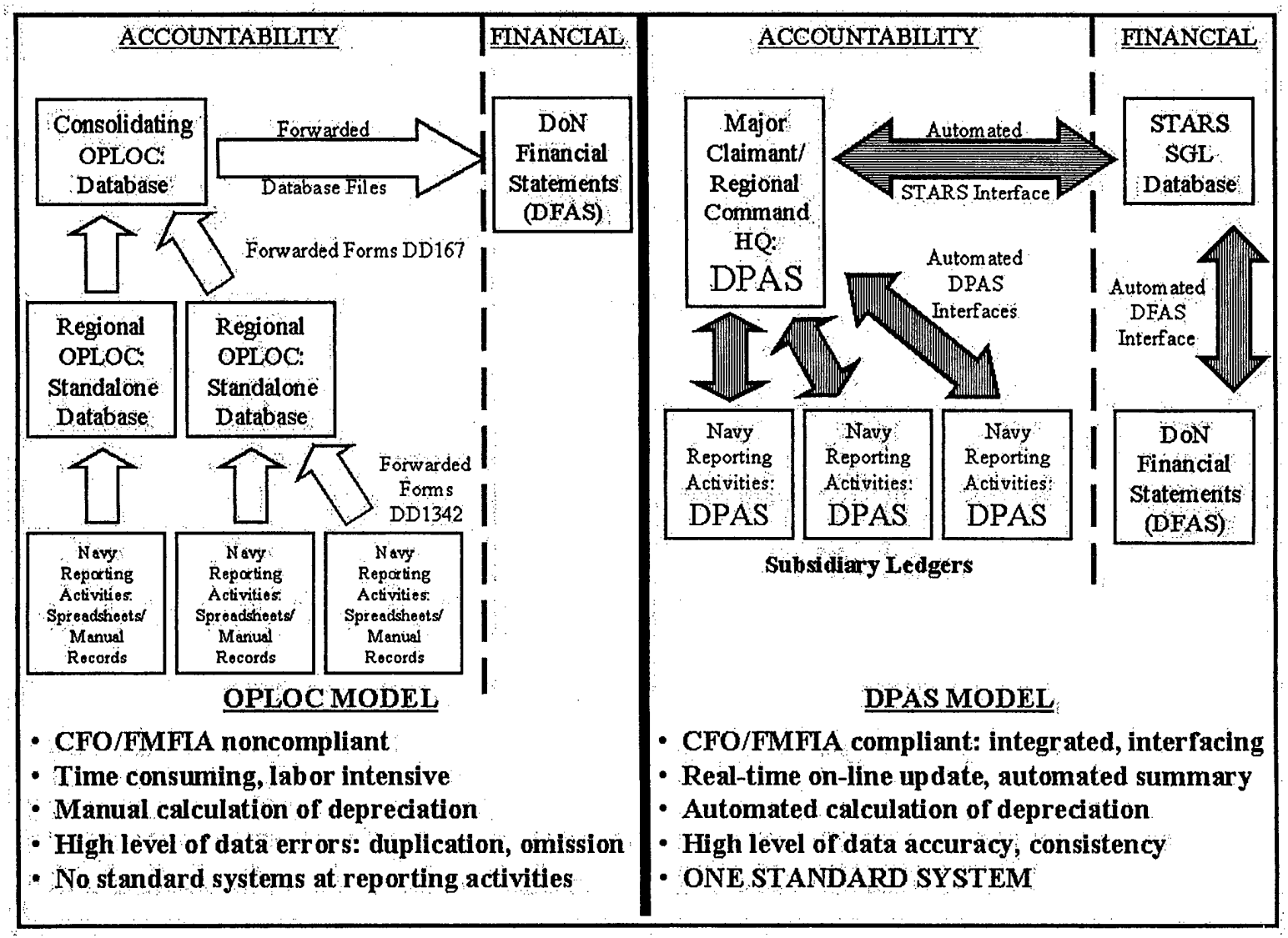

Figure 4-2. Comparison of OPLOC & DPAS Reporting Processes

quantities, operational levels, and current investments in FYs 1998 and 1999. Government auditors consider DoN noncompliant due to the existing requirement in SFFAS No. 8 for reporting acquisition costs, but current DoN National Defense PP&E nonfinancial feeder systems neither capture nor accumulate such costs, nor otherwise report values for specific National Defense assets. [Ref. 16:pp. 32, 92] Even where systems contain acquisition costs, the vast majority of supporting documentation required to validate reported values does not exist due to the lack of any mandate, until recently, to retain such receipts beyond six years and three months.

The Navy continues to report National Defense PP&E in accordance with the defunct requirements of the FASAB's proposal rejected in 1998, but not without some justification. The cost of complying with extant requirements in SFFAS No. 8 remains materially prohibitive in funding and human resources, when the existing standard is not enforced and the FASAB expects to establish different permanent reporting requirements. In their critical absence, DoN considers the current reporting method an interim measure, which nonetheless demonstrates that the Navy possesses substantial accountability, if not financial accounting, for National Defense PP&E. Tables 4-2 [After Ref. 21:Exhibit A, p. 1] and 4-3 [After Ref. 21:Exhibit B, p. 1,2] illustrate the full extent of DoN financial statement reporting of National Defense PP&E as a component of FY 1999 Required Supplementary Stewardship Information.

Even under these comparatively permissive reporting standards, however, the blatant deficiencies and consequent imperatives for compliance with federal financial management requirements for system interface and integration remain readily apparent. DoN National Defense PP&E quantities reported for FY 1999, as shown in Table 4-2, are

Department of the Navy National Defense PP&E

Quantities for the Fiscal Year Ended 30 September 1999 (Stated in Numbers of Systems/Items)

NATIONAL DEFENSE PP&E	As of 1 October 1998	Additions	Deletions	As of 30 Sep 1999	Condition Operational (%)
Aircraft					
Combat	2,117	36	68	2,085	80
Airlift	1,018	3	11	1,010	76
Other	965	19	26	958	91
Ships					
Submarines	123	1	7	117	68
Aircraft Carriers	18	0	0	18	67
Surface Combatants	231	8	13	226	63
Amphibious Warfare Ships	83	0	7	76	67
Mine Warfare Ships	38	1	0	39	69
Ships	228	6	33	201	70
Other Ships	1,147	2	54	1,095	60
Small Boats	2,553	53	175	2,431	79
Combat Vehicles					
Tracked	3,145	0	510	2,635	85
Wheeled	31,624	1,596	0	33,220	83
Towed	4,821	0	78	4,743	84
Other	12,744	829	19	13,554	79
Guided, Self-Propelled Ordnance					
Missiles	56,834	2,463	1,369	57,928	96
Torpedoes	8,486	216	29	8,673	83
Other	0	0	0	0	0
Space Systems					
Satellites	17	1	0	18	100
Other					
Other Weapons Systems	0	0	0	0	0
Weapon Systems Support					
Active Ammunition Bunkers	7,958	13	462	7,509	100
Active Missile Silos	0	0	0	0	0
Active Satellite Ground Stations	0	0	0	0	0
Other	0	0	0	0	0

Table 4-2. DoN National Defense PP&E Quantities

Department of the Navy National Defense PP&E Yearly Investments for FY 1998 and FY 1999 (In Millions of Dollars)		
NATIONAL DEFENSE PP&E	FY 1998	FY 1999
Aircraft		
Combat	$2,698	$2,897
Airlift	0	34
Other	356	2,004
Aircraft Support Principal End Items	2,981	722
Other Aircraft Support PP&E	0	974
Ships		
Submarines	1,089	1,409
Aircraft Carriers	1,301	823
Surface Combatants	2,879	3,552
Amphibious Warfare Ships	753	581
Mine Warfare Ships	89	73
Support Ships	0	359
Other Ships	575	30
Ship Support Principal End Items	851	852
Other Ship Support PP&E	0	1
Combat Vehicles		
Tracked	74	64
Wheeled	0	106
Towed	0	0
Other	0	0
Combat Vehicles Support Principal End Items	0	12
Other Combat Vehicles Support PP&E	0	1
Guided, Self-Propelled Ordnance		
Missiles	1,351	349
Torpedoes	125	70
Ordnance Support Principal End Items	414	16
Other Ordnance Support PP&E	0	198
Space Systems		
Satellites	0	0
Space Systems Support Principal End Items	130	115
Other Space Systems Support PP&E	0	0
Other		
Other Weapons Systems	48	43
Other Weapons Systems Support Principal End Items	106	0
Other Weapons Systems Support PP&E	0	42
Weapon Systems Support		
Active Ammunition Bunkers	28	19
Active Missile Silos	0	0
Active Satellite Ground Stations	0	0
General Mission Support PP&E	1,792	1,897

Table 4-3. DoN National Defense PP&E Yearly Investments

incomplete because of the specific exclusion of two major categories of National Defense Assets – Support Principal End Items, such as aircraft engines and radars, and Mission Support Equipment, such as nontactical vehicles and cryptographic systems. Thus, hundreds of different types of support equipment costing billions of dollars were not reported anywhere in DoN financial statements. Unreported Navy aircraft engines alone account for $7.6 billion of missing assets. [Ref. 1:p. 19] Of the over 9,600 missing aircraft engines, the Navy listed 658 at the time, costing $415 million, as in transit – for between 90 days and 18 years. DoN also incorrectly included 661 inactive ships, which skewed Condition Operational percentages and raised serious reliability and readiness concerns. [Ref. 21:pp. 21, 35, 36]

Some National Defense asset quantities do not appear on any centralized asset visibility system records, potentially precluding reporting on their existence. DoN obtained ballistic missile data for FY 1999 reports from personnel maintaining local spreadsheets at two facilities. Manual collection procedures, or data calls, are less reliable and dependent on timely, accurate human response. Further, their necessity prevents visibility over all DoN National Defense PP&E and related information vital to effectively managing operations. [Ref. 1:p. 20]

The National Defense PP&E yearly investment data shown in Table 4-3 also contained material inaccuracies, demonstrating pervasive internal control weaknesses. For one-year periods, FYs 1998 and 1999, the Navy understated outlays by $82 million and $783 million respectively. All errors occurred because of data misclassification, duplication, erroneous alteration, or exclusion. Also, although having justified to an extent the Navy's continued use of this defunct reporting standard, it discloses only $17

billion of an estimated $310 billion in National Defense PP&E held by the DoN. The absence of these critically material costs jeopardizes the legitimacy of DoN financial reporting in its entirety, and the sooner serious initiatives to capture such costs are realized, the sooner the Navy will benefit from enhanced decision making capabilities and demonstrated financial accountability and integrity. [Ref. 21:pp. 59, 66]

2. Progress

The National Defense PP&E team began with the identification of 17 critical nonfinancial feeder systems for assessment that accounted for National Defense assets. The Navy contracted again with the CPA firm KPMG, this time to evaluate National Defense PP&E nonfinancial feeder systems, methods, processes, and procedures. Current team initiatives entail the assessment of each system to evaluate the accuracy of extant data in terms of existence, completeness, and valuation, where possible, as well as levels of compliance with federal financial management legislative requirements and consequent laws and regulations. [Ref. 17:p. 27] Table 4-4 [After Ref. 22:p. 20] lists these 17 critical National Defense systems, although discussion of their specific functions and levels of compliance lies beyond the scope of this thesis.

Concurrently, the Working Group and KPMG are also considering alternatives to the current labor-intensive processes inherent to the National Defense accounting and reporting systems structure, an architecture which must change in some form as a prerequisite to compliance with legislated system interface and integration requirements. Extensive deliberations and consultations resulted in the establishment of four conceivably viable alternative approaches to accounting for and reporting National Defense PP&E:

National Defense PP&E Nonfinancial Feeder Systems		
NATIONAL DEFENSE SYSTEM	System Acronym	Responsible Command
Aircraft Inventory Readiness & Reporting System	AIRRS	NAVAIR
Maximo Database	AMARC	USAF
Aircraft Engine Maintenance System	AEMS	NAVAIR
Commercial Engine Tracking	CET	NAVAIR
Support Equipment Resources Mgmt. Information System	SERMIS	NAVAIR
Local Asset Management System	LAMS	NAVAIR
Calibration Standardization Asset Management System	CSAMS	NAVAIR
Metrology Automated Sys. for Uniform Recall & Reporting	MEASURE	NAVAIR
Mobile Facility Automated Assets Control System	MFAACS	NAVAIR
Naval Vessel Register	NVR	NAVSEA
Craft & Boat Support System	CBSS	NAVSEA
Supported Activity Supply System	SASSY	USMC
Conventional Ammunition Integrated Management System	CAIMS	NAVSUP
C-4/D-5 Missile History Tracking Reports	N/A	SSP
Naval Space Command Satellite Tracking	N/A	NAVSPACECOM
Financial Accounting & Inventory Record System	FAIRS	NAWC
Naval Facilities Asset Data Base	NFADB	NAVFAC

Table 4-4. National Defense PP&E Nonfinancial Feeder Systems

1) The Status Quo with System Consolidation and Modification Option. This alternative entails the modification of current systems to incorporate the data elements required for financial reporting compliance, as well as the consolidation of as many as nine of the systems into four. It remains the "status quo" alternative because any compilation of the data from the 11+ systems still in operation must be accomplished manually.

2) The Data Warehousing Option. This alternative calls for all the modification and consolidation measures to be taken in the first option. Additionally, it entails the development of a data warehouse solution as an

interface and integration vehicle to compile and report National Defense data.

3) The Defense Property Accountability System (DPAS) Option. This alternative permits the current critical systems to operate virtually unchanged in continued support of their operational communities, executing their original missions. As the name implies, however, this option involves the full implementation of DPAS as a separate, parallel system for recording, tracking, and reporting National Defense PP&E.

4) The Enterprise Resource Planning (ERP) Option. This final, most revolutionary alternative entails the complete consolidation of National Defense systems into one or more DoN-wide ERP systems. This fully integrated systems approach would represent a true paradigm shift across the Navy, but the current ERP pilots, with which this alternative would work to incorporate requirements, demonstrate serious long-term consideration by senior DoN leadership. [Ref. 22:p. 21]

None of the alternatives, as may now be readily apparent, include the possibility of either modifying the existing systems to the extent that they are themselves capable of integration with financial management systems, or consolidating all of the existing systems into one nonfinancial feeder system that performs all of the functions required by that asset category, as DPAS does with Personal Property PP&E. These two alternatives proved possible with Real Property and Personal Property respectively, but are infeasible due to cost, time, and technology constraints for National Defense PP&E systems and functions. With the known legislative requirements for an integrated system capable of

compliant interface with financial and accounting systems, if not a conclusive determination of precisely what information was required from the system, the National Defense Working Group elected to pursue implementation of the Data Warehousing Option.

The development of a "data warehouse" application will establish a central information repository for the financial information compiled within the various disaggregate National Defense nonfinancial feeder systems, which will remain in full use by their respective operational communities to execute their original missions. A consolidating data warehousing system provides an alternative means to capture, maintain, and transmit the required financial data without incurring the prohibitive costs or causing the operational disruption that would result from extensive system modification or replacement. [Ref. 23:pp. V-20(Volume I), II-66,67(Volume II)] Progress remains slow, however, with the initiative still lacking specific parameters for consolidating some of the redundant systems, establishing the functional requirements of the data warehousing process, or determining the software requirements for system interface. Figure 4-3 [After Ref. 23:p. 22] illustrates the conceptualization of the Data Warehousing Option processes, noting potential software solutions to these issues.

F. SUMMARY

The dysfunctional status of DoN PP&E nonfinancial feeder systems remains the most critical system obstacles to continued progress and eventual compliance with federal financial management reform requirements. The DoN formed 13 Working Groups to address the DoD Implementation Strategies and the deficiencies that gave rise

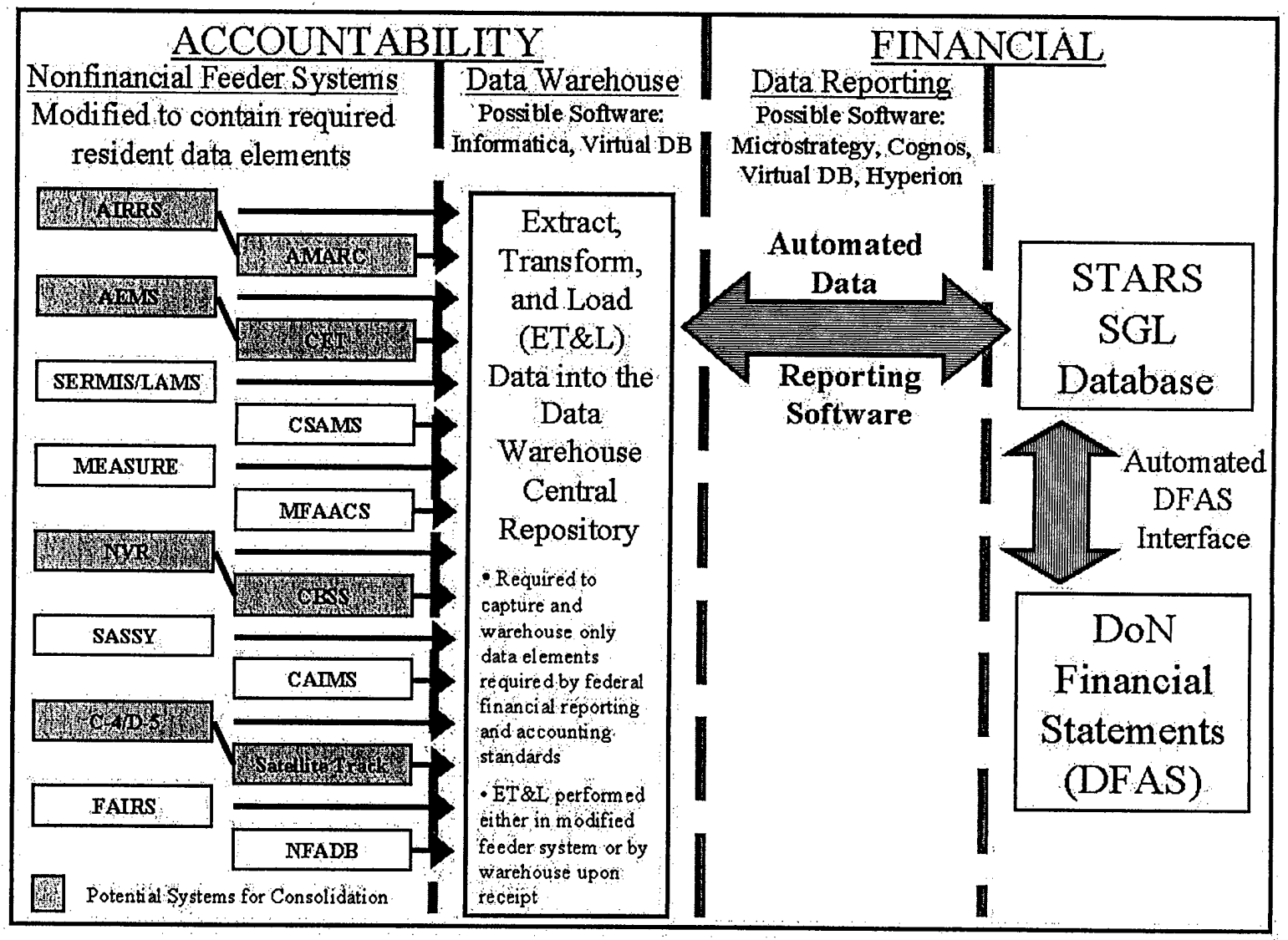

Figure 4-3. National Defense PP&E Data Warehousing Option

to them, including three teams focused upon PP&E asset categories: Real Property, Personal Property, and National Defense. The Navy granted the teams an unprecedented level of resource prioritization, but also required tangible results in the development and implementation of alternatives and solutions to achieve compliance with federal financial management reporting requirements and accounting standards.

The Working Groups initially assessed the requirements for the implementation of alternative business practices and the elimination of redundant and manually intensive systems. Progress beyond this differs markedly among the three PP&E Working Groups, and the current status of their respective compliance initiatives varies significantly, due to dramatically different levels of asset category deficiency and complexity in the implementation of corrective strategy. The comparatively simple modification of NFADB as the Navy's existing compliant Real Property nonfinancial feeder system has progressed the farthest, and will be fully operational in FY 2001. The transition to DPAS from the multitudes of diverse Personal Property systems presented a significantly more complex implementation process, with recurring institutional, resourcing, and technical challenges, but measurable progress continues toward completion in FY 2003. The National Defense Asset category, with no GAAP-equivalent standards for defining, accounting for, or reporting PP&E, no evaluation of any critical systems' compliance status, and exceptional material deficiencies possessed the greatest levels of complexity and adversity to compliance initiatives. Progress reflects this, with the Working Group and KPMG still assessing one of four limited alternatives to the labor-intensive National Defense accounting and reporting systems structure, and thus far lacking specific parameters or standards guidance for its implementation.

The comparative complexities in executing the respective PP&E Working Groups' nonfinancial feeder system initiatives also surface in an examination of the price, or the total cost, of implementing and sustaining the outcomes. For the following chapter, this thesis centers on the costs incurred by DoN in its progress with PP&E nonfinancial feeder initiatives, as well as the anticipated future costs of the fully operational and federally compliant processes and systems that will ostensibly result from their successful completion.

V. THE PRICE OF DON PP&E NONFINANCIAL FEEDER SYSTEM COMPLIANCE

A. OVERVIEW

The examination and comparison of the situations and progress achieved thus far in the respective PP&E nonfinancial feeder system compliance initiatives provide useful context for an analysis of the projected price of compliance for those efforts underway. This chapter focuses on those costs, from a DoN perspective, incurred in the implementation and sustainment of the initiative outcomes. It also addresses the levels of funding committed thus far to the Real Property, Personal Property, and National Defense Asset implementation strategies, which are not necessarily aligned with relevant cost projections. With such funding discrepancies and the intricacies of federal funding and cost accounting practices, this chapter first examines DoN budgetary accounting to illustrate what costs lie outside the capabilities of current Navy systems or requirements to track.

B. DON FUNDING AND BUDGETARY ACCOUNTING PRACTICES AND POLICIES

The complexities of program funding and budgetary accounting practices and reporting preclude any exact determination of the full costs in implementing any of the three major compliance initiatives examined by this thesis. The DoN identifies its funded programs based upon Congress' major appropriation groups, although the Navy is attempting to establish a cost reporting methodology that meets the Statement of Federal Financial Accounting Standards (SFFAS) requirements for cost information. Funds

appropriated by Congress reach the DoN nonfinancial feeder system compliance initiative programs through General Funds, specifically used to record financial transactions arising under Congressional appropriations for the direction and monitoring of budget execution as required by budgetary accounting responsibilities. The Navy bases these financial data on budgetary obligations, disbursements, and collection transactions, as well as nonfinancial feeder systems, and thus generally records transactions on a cash basis rather than the SFFAS-required accrual basis. DoN makes accrual adjustments, instead of using a full accrual accounting basis, for major operating expenses in General Fund activities in an attempt to report expenses as incurred. For capital expenditures and other long-term assets, the Navy does not recognize an expense until operations consume them. [Ref. 24:pp. 4, 5]

The existing program funding and budgetary accounting methodologies preclude an accurate estimate of full cost because expenses incurred due to compliance initiative development and progress are only recognized under the multiple, disaggregate appropriations from which the programs receive funding. No adequate capability exists to either separate those costs for accrual and scrutiny below the budget activity level or assign common costs to programs. Military Personnel costs, from high-ranking officers committed to the Working Groups to junior enlisted at the level of implementation and operation, are tracked only within the Navy and Marine Corps Military Personnel Appropriations, not by direct or indirect labor attributable to a specific program for achieving compliance with federal reporting requirements and accounting standards. DoN does track its civilian personnel as Full Time Equivalents by different major appropriations, but this level of recording still obscures labor costs. In a manner similar

to the separation of labor costs, no financial system or nonfinancial feeder system accumulates program-specific materiel costs, overhead costs, or non-recurring and other costs for the compliance initiatives outside the appropriation groups and General Fund activities for monitoring budget execution. Funds are obligated and disbursed for costs incurred from research and development, purchase of systems and networking components, and implementation and sustainment of the systems' operations, to include the facilities that contain them. Such funds respectively originate in Research, Development, Test, and Evaluation, Navy (RDTEN); Other Procurement, Navy (OPN); and Operation and Maintenance, Navy (OMN) and Marine Corps (OMMC) Appropriations, but the Navy lacks the financial and nonfinancial systems to collect and report cost information on an accrual basis or by program across appropriation groups.

The information required for the full cost estimate of PP&E nonfinancial feeder systems compliance exists, to some identifiable extent, within such records of obligation and disbursement transactions, but the utility of its extraction is greatly diminished by prohibitive time and resource constraints. Further, for the National Defense PP&E category, as well as Personal and Real Property to a significantly lesser degree, the vast proportion of costs remain projected and have yet to be incurred. Also, due to the Navy's lack of visibility on many types of cost, as discussed, the projected resource requirements largely encompass costs estimated for the services of private sector contractors, who must and do track all relevant expenses. Thus, the following examination of "the price" of PP&E nonfinancial feeder systems compliance approaches cost estimates using DoN projected resource requirements for the implementation and sustainment of systems in conformity with federal reporting requirements and accounting standards.

C. REAL PROPERTY

With the Naval Facilities Asset Database (NFADB) currently in operation continuing to serve, after modification, as the Real Property PP&E nonfinancial feeder system, this category of assets costs the least in terms of compliance and receives the strongest level of commitment for funding projected resource requirements from the Navy. Table 5-1 [After Ref. 25, Ref. 26] illustrates the current projected resource requirements through FY 2005.

These costs exclude the price of progress achieved in FY 1999 for the determination of reliability for NFADB data in terms of existence, completeness, and material accuracy of recorded costs, as well as that achieved in FY 1999 for the development of depreciation calculations and internal control modifications to the system, totaling approximately $750,000. They omit, as previously discussed, the labor costs of military, DoN civilian, and other federal civilian personnel, from Public Works Officers to Civil Engineers to government auditors, whose efforts greatly contributed to this progress and will continue to do so until the compliance initiative is complete.

The projected resource requirements for FY 2000 through FY 2003 represent cost estimates for existing in-house labor and oversight contracts with Price Waterhouse Coopers [Ref. 27], as well as the programming and implementation of system modifications, including the elimination of certain controls and processing requirements that preclude NFADB interface with both Expanded Access Sites and external financial systems. With the extension of update and report access to naval reporting activities

Department of the Navy Real Property (NFADB) Resource Requirements($ in Thousands)								
Expense	Appropriation	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Totals
Price Waterhouse Coopers	OMN	700	710	720	732	0	0	2,862
System Modifications	RDTEN	300	500	0	0	0	0	800
Total, Funded		1,000	1,210	720	732	0	0	3,662
Total, Unfunded		0	0	0	0	0	0	0
Total, NFADB		1,000	1,210	720	732	0	0	3,662

Table 5-1. Real Property (NFADB) Resource Requirements, FY 2000 - FY 2005

outside the Facilities Systems Office, the Naval Facilities Engineering Command Headquarters, and the five Engineering Field Divisions, costs also encompass the implementation of such additional Expanded Access Sites into the NFADB network. Thus far, DoN has committed to fully funding NFADB resource requirements.

The significant lack of certain costs included in the projected resource requirements also merits discussion. The Real Property compliance initiative requires no sustainment funding after FY 2003, when all modification and access expansion should be complete, because of the limited scope and complexity in implementing change using an extant, standard system. Specifically, the organizational structure already exists, and will not change as a result of the compliance initiative, except to increase the number of reporting activities with access to NFADB. The personnel at these activities already use NFADB, if only through form-driven, manual correspondence, and thus need no staffing augmentation to perform their duties after the initial training for on-line update and query functions. The current nonfinancial feeder system and its on-line access terminals require only further modification, not replacement, rendering sustainment costs beyond those incurred by the previous NFADB iteration immaterial.

D. PERSONAL PROPERTY

The substantially greater complexity of implementing the Defense Property Accountability System (DPAS) throughout the Navy as the sole Personal Property nonfinancial feeder system certainly is reflected in the exponentially higher cost of compliance in comparison to the NFADB modifications for Real Property PP&E. Much of this cost derives from the principal difference in implementation strategies: DPAS will completely replace hundreds of noncompliant, stovepipe systems, heralding a

fundamental change in DoN business practices, while NFADB requires only minor modification and expansion as an operational, compliant system. At present, the DPAS implementation receives substantial funding commitments from the Navy, but funding for the later incremental costs of sustaining the integrated system functions is not yet identified. However, DoN remains unequivocally committed to funding all DPAS costs, including the recurring costs of sustainment, and the upcoming Program Objective Memorandum will address this disparity. Table 5-2 [After Ref. 25, Ref. 26] illustrates the current projected resource requirements for Personal Property nonfinancial feeder system compliance through FY 2005.

These costs compare with those projected for Real Property in terms of excluding the price of progress achieved through FY 1999, totaling approximately $4.6 million. For DPAS, this progress, as discussed in Chapter IV, includes work on assessments of existing data reliability for existence and completeness; work on obtaining accurate historical cost data and converting the data to inventory and reconcile Personal Property records; and Marine Corps and Navy deployment of DPAS, a total of 122 sites, and initial subsequent inventory revisions. They omit past and future labor costs of personnel from the DoN, the government audit community, the Defense Logistics Agency (DLA), the Defense Finance and Accounting Service (DFAS), and the Defense Information Systems Agency (DISA), all essential participants in the continuing development of alternative Personal Property policies, operating procedures, and internal controls for the deployment of a system entirely new to the Navy.

The projected resource requirements for FY 2000 through FY 2005 represent cost estimates for existing contracts with the CPA firms KPMG Peat Marwick and Price

Department of the Navy Personal Property (DPAS) Resource Requirements ($ in Thousands)									
Expense	Appropriation	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Totals	
USN									
KPMG	OMN	8,700	6,682	6,780	6,895	0	0	29,057	
Price Waterhouse Coopers	OMN	150	150	150	150	0	0	600	
Mantech	OMN	600	600	610	620	629	639	3,698	
Firewall	OMN	0	35	0	0	0	0	35	
Follow-on Training	OMN	0	700	350	355	360	364	2,129	
USMC									
KPMG	OMMC	600	600	400	200	0	0	1,800	
Follow-on Training	OMMC	0	250	100	100	100	100	650	
Total, Funded		10,050	8,260	7,000	7,000	1,089	0	33,399	
Total, Unfunded	OMN	0	757	1,090	1,220	0	1,003	4,070	
	OMMC	0	0	300	100	0	100	500	
Total, DPAS		10,050	9,017	8,390	8,320	1,089	1,103	37,969	

Table 5-2. Personal Property (DPAS) Resource Requirements, FY 2000 - FY 2005

Waterhouse Coopers entailing primarily oversight and implementation assessment functions, the Mantech Corporation for administration of the DPAS centralized catalogue and help desk operations, and other projects to establish the DoN DPAS firewall and conduct follow-on training for DoN personnel. [Ref. 26] The work of KPMG comprises by far the greatest expense to the Navy through FY 2003, when full implementation is currently targeted for completion. Their services center around three distinct and vital components of the implementation process at every activity:

1) The Pre-Site Visit, which assesses and prepares a reporting activity for the arrival of the DPAS installation team,
2) The Integrated Training and Implementation, where KPMG exercises oversight over accounting requirements, management controls, post-conversion management, and other diverse compliance specifications, and
3) The Post Deployment Review, which formally certifies an activity's successful completion of DPAS implementation and maintenance of auditable records.

With DPAS implementation, however, comes a multitude of additional functions never previously required of the Personal Property nonfinancial feeder systems or their operators, which reflect DPAS' capabilities addressing property accountability and valuation, equipment utilization, and preventive maintenance scheduling. Thus, after FY 2003, sustainment costs comprise all projected expenses, consisting of the outsourced centralized catalogue and help desk functions, as well as continued follow-on training.

The Navy will incur additional costs not considered in the projected funding requirements as a consequence of the DPAS organizational structure. DPAS is a major

program of the DLA, with whom its Program Executive Office resides. The DPAS master database runs on a DISA system from their Regional Support Activity in Dayton, Ohio, where DISA controls database storage and management, and DPAS operations and security. Some aspects of DPAS program management also rest with DFAS, which holds responsibility for guidelines on DPAS fielding, data conversion, training, and implementation support. [Ref. 20]

The DPAS program itself thus functions as a "virtual" organization, but DLA controls all central design activities, such as software development and maintenance, and customer support, which receive prioritization as a result of quarterly votes from a forum that represents DoD components employing DPAS. Currently, DoN possesses a comparative advantage in this forum, as both the Navy and the Marine Corps hold voting rights. The cost of all resulting modifications is not relevant to their prioritization, but such expenses are indirectly passed on to the DoD components using DPAS, including DoN. Costs incurred by the DPAS organizational structure are realized in the DLA Working Capital Fund, which translates these costs to users via its overall variable rate. Thus, while the Navy certainly pays in the long term for system administration and modification, the expensing process obscures specific costs and consequently defies projection in funding requirements.

E. NATIONAL DEFENSE

The highest levels of complexity and challenge inherent in the implementation of a compliant National Defense PP&E nonfinancial feeder system structure are not reflected in the projected funding requirements, compared with the price of DPAS implementation. This is attributable to two principal factors:

1) The projected costs are based upon the aforementioned Data Warehousing Option, which entails modification and consolidation of existing systems and subsequent development of a separate data warehouse to serve as an interfacing, integrated system for reporting financial data, rather than the implementation of an entirely new integrated feeder system that completely replaces all previous systems, such as DPAS; and

2) The projected costs represent only initial estimates for system modifications and software development, when preliminary assessments of the critical National Defense systems for data accuracy remain unfinished, and progress on the development and parameters of the data warehouse construct remains at conceptualization.

The uncertain scope of the modifications required to existing nonfinancial feeder systems and the preliminary development stage of the data warehouse system render the resulting cost estimate comparatively unreliable, and subject to significant volatility. This potentially explains the Navy's reluctance to commit funding to the National Defense PP&E compliance initiative, particularly in the context of an asset category where no conclusive standard for accounting and reporting requirements yet exists. Table 5-3 [After Ref. 25, Ref. 26] illustrates the current projected resource requirements for implementing the National Defense Data Warehouse Option to achieve nonfinancial feeder system compliance through FY 2005.

The National Defense PP&E Working Group achieved all material progress in FY 2000, and Table 5-3 thus contains an approximation of all contractor costs incurred to date, unlike costs projected for Real Property and Personal Property, which exclude the

Department of the Navy National Defense (Data Warehouse) Resource Requirements ($ in Thousands)									
Expense	Appropriation	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Totals	
KPMG	OMN	750	1,000	516	525	0	0		2,791
TBA (Data Warehouse)	OMN	0	800	815	830	846	863		4,154
Hardware	OPN	0	2,000	0	2,000	0	2,000		6,000
Software	OPN	0	400	0	100	0	100		600
Systems Interfaces	RDTEN	0	1,000	0	0	0	0		1,000
Total, Funded		750	500	0	0	0	0		1,250
Total, Unfunded	OMN	0	1,300	1,331	1,354	846	863		5,694
	OPN	0	2,400	0	2,100	0	2,100		6,600
	RDTEN	0	1,000	0	0	0	0		1,000
Total, Data Warehouse		750	5,200	1,331	3,454	846	2,963		14,544

Table 5-3. National Defense (Data Warehouse) Resource Requirements, FY 2000 – FY 2005

price of progress achieved through FY 1999. Similar to the previous two projected funding requirement estimates, however, it does exclude past and future labor costs of Navy military and government audit community personnel, whose efforts are integral to the development, implementation, and validation of any resulting system structure that revolutionizes National Defense accounting and reporting.

The projected resource requirements for FY 2000 through FY 2005 contain one comparatively accurate cost estimate for an existing contract with KPMG Peat Marwick through FY 2003. Contractor services entail project oversight, analysis of reporting alternatives, and both system and business process assessments to establish the extent of modification required to capture, maintain, and transmit the required data elements. Other funding requirement estimates represent the specific costs of developing the data warehouse financial information repository and associated interface network requirements and parameters. This includes procuring the necessary system hardware and software to interface with National Defense nonfinancial feeder systems and integrate with DFAS financial systems, and establishing an organizational structure for the efficient and effective administration and operation of the resulting system.

Of these non-KPMG costs, the National Defense Working Group projections anticipate that only the incremental organizational expense of administering and operating the data warehouse system constitutes a recurring cost required to sustain the compliant reporting and accounting functions. Incremental increases in sustainment costs are immaterial at the level of the disaggregate National Defense nonfinancial feeder systems, where their respective operational communities continue to employ largely the same systems executing their original missions, with no staffing or system augmentations

thus necessary after the initial modifications and training. Thus far, however, DoN remains committed to funding only half of KPMG's estimated costs in FY 2001, and nothing beyond this pending further development of the Data Warehouse Option and more conclusive guidance on National Defense accounting and reporting standards.

Before selection of the Data Warehouse Option as the compliance initiative's alternative approach to account for and report National Defense PP&E, the Working Group and KPMG established a field of four conceptually viable options, as discussed in Chapter IV. Although it is unlikely that the Data Warehouse Option will be replaced by one of the other three, this examination of the price of compliance warrants an overview of the remaining alternatives, and concurrently a comparison with previous estimates for the selected option. Table 5-4 [After Ref. 28:p. 20] illustrates KPMG's comparative evaluation of the four alternative approaches as of late August 2000.

The KPMG comparison of alternatives in the evaluation matrix highlights several relevant points. The Navy did not select the Data Warehouse Option based upon the lowest estimated costs of implementation and sustainment – in the short term, only the Enterprise Resource Planning (ERP) Option is more expensive for implementation, although in the long term only the Status Quo option is less for sustainment. Further, the estimated time required for the Data Warehouse Option implementation is comparable to both the Status Quo and DPAS alternatives.

The selected option becomes distinct from the others, rather, among the listed factors that define the implementation process itself. Only the Status Quo Option, which entails similar modifications to existing nonfinancial feeder systems, also prevents an intolerable level of operational disruption and risk to the function of systems whose

Evaluation Matrix				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	System Status Quo	Data		Enterprise
Implementation Factor	Modif./Consol.	Warehouse	DPAS	Resource Planning
Cost of Implementation	$700K - $1.1M	$2.5M - $4.3M	$2.3M - $3M	$100M+
Annual Cost of Sustainment	$50K	$140K - $275K	$700K	$0 - $15M
Time to Implement	1 Year	1 Year	1 Year	5+ Years
Operational Systems Disruption/Risk	GREEN	GREEN	YELLOW	RED
Automation/Integration of Reporting Processes	RED	GREEN	YELLOW	GREEN
Consolidation of Redundant Feeder Systems	YELLOW	YELLOW	YELLOW/RED	YELLOW/GREEN

Table 5-4. Comparison of National Defense PP&E Compliance Alternatives, August 2000

accountability functions remain vital across major naval warfighting components. Unlike the Status Quo Option, however, only the ERP and Data Warehouse alternatives achieve the principle federal reform requirement for a completely automated, integrated financial management system. DPAS is also considered inadequate, due to its inability to interface with existing systems or to accept National Defense assets, and the subsequent requirement for manually feeding data into DPAS before entering the automated reporting process. All options compare approximately the same in terms of redundant system consolidation, although the ERP is slightly superior in its complete system transition to a DoN-wide system, while DPAS is marginally inferior due to its inability to replicate all the functions performed by National Defense nonfinancial feeders. From this perspective, DoN selected the Data Warehouse Option because it represents the only alternative that minimizes operational disruption while it achieves compliance with federal requirements for automation and integration within time and cost constraints.

F. COST ESTIMATE VARIANCES

Although the majority of the costs estimated in the projected resource funding requirements have yet to be incurred, a comparison of the estimate modifications over the past year alone illustrates their tenuousness and merits further examination as a factor in the price of compliance. Volatility reflecting escalations in cost appears to coincide with DoN reluctance to commit to funding projected compliance initiative costs. However, high variances between FY 1999 and FY 2000 estimates are not confined to implementation programs still in the preliminary stages, such as the National Defense Data Warehouse, or to projections in the outyears where past progress in the established compliance initiatives becomes a primary determinant of cost. Table 5-5 [After Ref. 25,

Ref. 26, Ref. 28:p. 20, Ref. 29:p. 7], which summarizes the current projected funding requirements through FY 2005 for all three PP&E compliance initiatives, illustrates the cost estimate variances through a comparison with June 1999 DoN estimates for Real and Personal Property, and with worst-case August 2000 KPMG estimates for National Defense.

This comparison demonstrates that cost estimate variances represent a significant, uncertain factor in the determination of the price of compliance for DoN PP&E nonfinancial feeder systems, potentially to both the benefit and detriment of the Navy. Projected funding requirement volatility only heightens the necessity for preservation of the institutional momentum that has thus far sustained the DoN commitment to achieving compliance with federal accounting and reporting requirements for nonfinancial feeder systems.

G. SPECULATIVE COSTS

While existing program funding and budgetary accounting methodologies preclude accurate estimates of full costs for reasons previously addressed, speculation on the significance and amounts of untracked but material cost elements may serve to establish the closest approximation to such an estimate obtainable under time and resource constraints. Cost elements may be divided at the most general, relevant level into implementation costs, alternatively labeled investment, transition, or non-recurring costs, and sustainment costs, also known as recurring costs. Separate examination of the respective PP&E compliance initiatives' implementation and sustainment costs provides for a comparison among them of the extent to which material speculative costs exist.

Department of the Navy Estimates of PP&E Nonfinancial Feeder Systems								
Resource Requirements ($ in Thousands)								
Compliance Initiative	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Totals	
Real Property (NFADB)								
June 1999	5,300	2,300	2,000	1,200	1,000	1,000	12,800	
September 2000	1,000	1,210	720	732	0	0	3,662	
Cost Estimate Variance	-81.13%	-47.39%	-64.00%	-39.00%	-100.00%	-100.00%	-71.39%	
Personal Property (DPAS)								
June 1999	8,700	4,300	2,700	1,400	1,000	1,000	19,100	
September 2000	10,050	9,017	8,390	8,320	1,089	1,103	37,969	
Cost Estimate Variance	15.52%	109.70%	210.74%	494.29%	8.90%	10.30%	98.79%	
National Defense (Data Warehouse)								
August 2000 (High-End Estimates)	750	4,300	275	275	275	275	6,150	
September 2000	750	5,200	1,331	3,454	846	2,963	14,544	
Cost Estimate Variance	0.00%	20.93%	384.00%	1156.00%	207.64%	977.45%	136.49%	
Total, PP&E Initial Estimates (June 1999, August 2000)	**14,750**	**10,900**	**4,975**	**2,875**	**2,275**	**2,275**	**38,050**	
Total, PP&E Current Estimates (September 2000)	**11,800**	**15,427**	**10,441**	**12,506**	**1,935**	**4,066**	**56,175**	
Total, Cost Estimate Variances	**-20.00%**	**41.53%**	**109.87%**	**334.99%**	**-14.95%**	**78.73%**	**47.63%**	

Table 5-5. Comparison of DoN PP&E Nonfinancial Feeder Systems Resource Requirements, FY 2000 – FY 2005

1. Real Property

a. Implementation Costs

With the comparatively minor requirement for modification of a currently operational nonfinancial feeder system, the NFADB Real Property compliance initiative will not incur any apparent material, uncaptured costs upon which to speculate. Implementation costs projected through FY 2003 encompass the specific labor costs of Price Waterhouse Coopers and contracted programmers engaged in oversight, data sampling, and modification of software, processes, and internal controls, all accounted for under OMN and RDTEN appropriations. The labor-intensive efforts of DoN Civil Engineer and Public Works personnel in conjunction with the contractors proved critical to the Real Property compliance initiative's progress, but did not represent additional resource augmentation of any activity, and thus not any incremental cost beyond standard staffing requirements. Similarly, NFADB will incur no incremental materiel costs with the additional Expanded Access Sites coming on-line, because the web-based update and query access gained by the reporting activities functions using existing systems and networks, and requires no additional personnel to operate.

b. Sustainment Costs

No material sustainment costs exist beyond the FY 2003 completion of implementation, also due to the limited scope and complexity of the NFADB modifications. A functional organizational structure that maintains the use of NFADB already exists, and the system interface modifications and web-based access terminals do not call for claimant staffing augmentations to sustain operations. Without the presence

of significant recurring costs or escalating investment costs from unanticipated contingencies, speculative costs do not factor into any Real Property compliance initiative full cost estimate. In their absence, implementation progress remains the most advanced among the major PP&E asset categories.

2. Personal Property

a. Implementation Costs

In contrast, the complexities associated with the DPAS replacement of noncompliant Personal Property systems across the Navy, and the consequent change in business culture and practices, suggest the consideration of speculative costs in a full cost estimate of the price of compliance. Implementation costs projected through FY 2003 include the specific labor costs of KPMG Peat Marwick and Price Waterhouse Coopers for a multitude of oversight and implementation assessment functions, as well as the establishment of the DoN DPAS firewall, entirely accounted for under OMN and OMMC appropriations. Although DPAS is new to the DoN, the Navy incurred no labor costs under RDTEN due to the nonfinancial feeder systems' previously operational status within other DoD components and agencies. Similar to the NFADB expansion, DPAS runs on existing computer systems and networks, incurring no incremental materiel costs from operations.

Unlike the situation for NFADB, however, where Real Property data were determined to be materially accurate and reliable, DPAS implementation requires a labor-intensive complete physical inventory of Personal Property prior to the nonfinancial feeder system data transition. Although the DPAS initiative does not track the associated labor costs, they cannot be considered an incremental cost of compliance because the

requirement for conducting complete Personal Property inventories every three years existed prior to DPAS implementation. While the past requirement allowed the inventory to be conducted over the span of three years at a pace determined by the claimant, the current prerequisite to data transition does not alter the total expense incurred for conducting the inventory, only the timing of the total expense. Accelerating recognition of the labor cost to the present simply eliminates it as a future cost, rendering the inventory requirement immaterially different from the status quo. As a result, the costs of conducting inventories cannot be construed as a speculative cost of compliance.

b. Sustainment Costs

Significant DPAS recurring costs exist beyond the FY 2003 targeted completion of implementation. The sustainment of DPAS requires the administration and maintenance of the centralized catalog and help desk operations, as well as the establishment of an intensive follow-on training regimen, also fully accounted for under OMN and OMMC appropriations. Beyond these support requirements, however, the transition of the Personal Property reporting activity organizational structure does not call for additional personnel, and thus incremental labor costs, to sustain operations, despite the fundamental change in the system environment. With the efficiencies incorporated in the centralized support measures that represent the cost of DPAS sustainment, prior claimant staffing levels are considered sufficient to employ DPAS to the extent of its multifunctional capabilities for property and equipment management, in addition to accounting and reporting functions.

c. Speculative Costs

This breakdown of implementation and sustainment costs for funding requirements omits any potentially speculative costs material to a full cost estimate, but other expenses incurred become quite relevant. DPAS is a major DLA program, as previously discussed in this chapter, with aspects of its management and functionality administered by several DoD entities that serve the common requirements of all DoD military components and agencies employing DPAS. While broad speculation on the Navy's impact in the DLA Working Capital Fund expensing process that obscures specific costs and translates them to users via the general rate lies beyond the scope of this thesis, the cost of the DPAS program's extensive role in implementing the nonfinancial feeder system at over 900 DoN reporting activities merits speculation.

The work of DPAS Implementation Teams at DoN reporting activities comprises the implementation costs directly attributable to the Navy through FY 2003. DPAS Implementation Teams consist of two federal civilian employees, with different levels of experience and seniority, typically of the General Schedule (GS) 13 and 11 pay grades. [Ref. 30] The teams' functions, performed during deployment to every DoN reporting activity in the DPAS implementation process, encompass primarily data conversion, both on-site and through the master database, and implementation training, which focuses on technical aspects of the system in contrast with KPMG's concurrent focus on policies and procedures. [Ref. 20:p. 13] DPAS Implementation Teams work closely in conjunction with KPMG during the implementation process at every activity, in fact, and the four distinct phases of their efforts are directly connected to KPMG's aforementioned services as follows:

1) The Command Brief, which follows the KPMG Pre-Site Visit, is a one day event where the DPAS team briefs the reporting activity on the impending implementation schedule, and demonstrates DPAS functionality in order to explain the advantages of its employment;

2) The Implementation Site Visit, for which the reporting activity prepared as a result of the Pre-Site Visit, is a two day event that tests the existing hardware, verifies the users, initiates the data mapping, and determines the data conversion method to be employed;

3) The Implementation-in-Process Phase, which does not require the on-site presence of the DPAS team, is a 60–90 day period after the Implementation Site Visit where the team develops and executes conversion programs for the reporting activities while remaining available to the activity as it reconciles data errors and downloads DPAS software;

4) The Integrated Training and Implementation, which is conducted in concert with KPMG, is an intensive five day iteration that finally loads the site data, executes the data conversion to DPAS, and provides the users with technical and operational training. [Ref. 20:p. 21]

This level of information allows for the speculation of costs incurred by the DPAS Implementation Teams in the course of establishing DoN Personal Property PP&E compliance with federal accounting and reporting standards at over 900 reporting activities. Development of a cost estimation methodology to determine a speculative cost entails assumptions regarding the team members' labor costs, transportation costs, and the number of activities to which the teams will be deployed.

Labor costs may be calculated by determining the full costs of employing a GS-13 and a GS-11 respectively over a period of one year, dividing that amount by 2080 hours, representing one Full Time Equivalent or workyear, to arrive at an effective hourly rate, and multiplying that subsequent amount by the number of hours, including travel time, estimated to have been spent dedicated to DPAS implementation at DoN reporting activities. The average full costs of either pay grade are comprised of basic pay, the actual salary paid to employees during regular scheduled work hours and leave; locality pay, an additional percentage of basic pay added to that amount based upon the geographic area of employment; premium pay, any compensation for work in excess of the regularly established work period; benefits pay, the government's share of retirement, insurance, and social security costs; and separation pay. [Ref. 31]

For Defense Agencies other than the military components, the U.S. Office of Personnel Management considers, on average, premium pay to equal 4.88% of basic pay, benefit pay to equal 24.3% of basic pay, and separation pay to equal 2.63% of basic pay. This specific cost estimate assumes locality pay to equal 9.05% of basic pay, based upon the location of the DPAS Program Executive Office in the Washington-Baltimore, DC-MD-VA-WV locality pay area. [Ref. 32] This results in the following formula:

Full Annual Civilian Employee Cost = BaP + PP + BeP + SP + LP, where:

BaP = Basic Pay

PP = Premium Pay = BP x .0488

BeP = Benefit Pay = BP x .243

SP = Separation Pay = BP x .0263

LP = Locality Pay = BP x .0905

For a GS-13 Step 1 in FY 2000, this formula results in:

55,837 + 2,725 + 13,568 + 1,469 + 5,053 = $78,652 per year

For a GS-11 Step 1 in FY 2000, this formula results in:

39,178 + 1,912 + 9,520 + 1,030 + 3,546 = $55,186 per year

Dividing by 2,080 hours in one workyear results in the following labor costs per hour:

GS-13: $78,652/2,080 hours = $37.81 per hour

GS-11: $55,186/2,080 hours = $26.53 per hour

The four phases of DPAS Implementation Team work specify the number of days spent working on-site at every reporting activity, with the exception of the Implementation-in-Process Phase, which does not require their on-site presence. This cost estimate methodology assumes that every day on-site comprises eight hours of work per team member, and that every day of travel to and from the reporting activity is charged as eight hours of work. It also assumes, conservatively, that the 60-90 day Implementation-in-Process Phase requires an average of three days, or 24 hours, of work per team member dedicated to a specific reporting activity. Given these assumptions, each team member spends 17 workdays, or 136 hours, dedicated to working on the implementation process for each DoN reporting activity: including travel time, three days for the Command Brief, four days for the Implementation Site Visit, three days for the Implementation-in-Process Phase, which assumes no travel, and seven days for the Integrated Training and Implementation. Multiplying the number of hours worked per site by the respective labor costs per hour results in the following full labor costs for team members per site:

GS-13: 136 hours x $37.81 per hour = $5,142.16 per site

GS-11: 136 hours x $26.53 per hour = $3,608.08 per site

Further development of the cost estimation methodology requires additional assumptions regarding the number of activities to which the teams will be deployed and the average travel cost per site visit. Although over 900 reporting activities are estimated to eventually implement DPAS by FY 2003, this cost estimate will use 900 as the basis for calculations in the absence of a conclusive higher number. Multiplying the full labor costs of team members per site by the number of sites yields the following total labor costs by pay grade for DPAS Implementation Teams:

GS-13: $5,142.16 per site x 900 sites = $4,627,944

GS-11: $3,608.08 per site x 900 sites = $3,247,272

For estimating average travel costs per site visit, this methodology will use the amount estimated by KPMG for its own DPAS site visits, accepted by DoN for FY 2001: $2,000 per team member per site visit. [Ref. 33] DPAS Implementation Teams must travel to the reporting activities for the Command Brief, the Implementation Site Visit, and the Integrated Training and Implementation, resulting in three visits per team member per site, or six total visits per site. Multiplying the number of total visits per site by the number of sites by the average travel cost per site visit yields the following total travel costs:

6 visits per site x 900 sites x $2,000 per site visit = $10,800,000

The sum of labor and travel costs results in the following total cost:

$4,627,944 + $3,247,272 + $10,800,000 = $18,675,216

This amount represents the speculative total implementation costs incurred by the DPAS Implementation Teams in the course of establishing DoN Personal Property PP&E

compliance with federal accounting and reporting standards at over 900 reporting activities. While the precise cost of this aspect of DoN DPAS implementation cannot be determined with the Navy's accounting and financial systems, and the DLA incorporates such costs into its Working Capital Fund general rate, its significance remains undeniable. Referencing Table 5-2, this speculative incremental cost of Personal Property compliance equals 49.2% of the total projected DPAS resource requirement of $37.969 million for implementation and sustainment costs from FY 2000 through FY 2005, a total which excludes this estimated cost. Even with the presence of significant recurring costs and a diverse array of institutional and technological challenges potentially escalating investment costs, speculative costs represent a material factor in the Personal Property compliance initiative full cost estimate.

3. National Defense

a. Implementation Costs

For the National Defense Data Warehousing compliance initiative, the vast majority of costs considered in the projected funding requirements are speculative costs. As previously discussed in this chapter, they primarily represent initial estimates for system and internal control modifications, and software development of an automated central repository that remains without operating parameters. In contrast to both Real and Personal Property compliance initiatives, National Defense implementation costs extend through FY 2005, although compliance with federal accounting and reporting standards for nonfinancial feeder systems is still expected by the FY 2003 target completion date. Such costs include KPMG Peat Marwick labor costs for oversight, analysis of alternatives, and process assessments, hardware and software materiel costs for procuring

the data warehouse system and network, and systems interface research costs for developing the required interfaces with and modifications to existing operational nonfinancial feeder systems. Just as the other major PP&E asset categories, however, projected resource requirements account for these implementation costs under the OMN, OPN, and RDTEN appropriations, respectively.

b. Sustainment Costs

National Defense Data Warehouse compliance initiative sustainment costs are anticipated beyond FY 2005, but thus far only at the level of the data warehouse repository itself, where its administration and operation constitute an incremental, recurring expense over the operation of current disaggregate, noncompliant systems. Again, projections are fully accounted for under the OMN appropriation. Under the Data Warehouse Option, operational communities will employ largely the same systems with no additional staffing required after their modification, so no incremental sustainment costs arise from the National Defense reporting activity organizational structures.

c. Speculative Costs

Despite this comprehensive consideration of implementation and sustainment costs across appropriations, potential speculative costs prove quite material in a full cost estimate of the price of compliance, and are particularly relevant to thesis conclusions. Much of the complexity and challenge inherent to the National Defense compliance initiative, and its resulting lack of progress, is attributable to the absence of any conclusive accounting and reporting standard for National Defense PP&E after the abortive FY 1998 FASAB attempt. Cost speculation, therefore, centers on the potential resolution of the major deficiency that precludes further progress in establishing the

functional requirements for the data warehouse system or determining the necessary parameters for interface with National Defense Asset nonfinancial feeder systems.

Examination of all the potential accounting and reporting requirements the FASAB might establish and the subsequent costs of each in terms of DoN compliance lies beyond the scope of this thesis. However, a past estimate of the price of DoD compliance for one such alternative provides a reasonable basis for a DoN speculative cost, which will be incurred to some extent unless the FASAB successfully establishes the permissive standards it was forced to abandon in FY 1998. During the public hearings on the draft of that FASAB proposal, DoD representatives testifying in favor of the elimination of the National Defense PP&E valuation requirement presented a cost estimation of $100 million for determination of the value of all existing weapon systems. [Ref. 14:pp. 37, 38] DoN controlled almost 50% of total DoD National Defense Asset value as of FY 1997, the last time a requirement was enforced for reporting it [Ref. 1:p. 19, Ref. 21:p. 1], enabling a rough approximation of the estimated cost to the Navy for determining the value of National Defense PP&E at $50 million.

While no recognized requirement for such a valuation endeavor exists, the legislative momentum for financial management reform within the executive departments and agencies will soon compel the FASAB to establish a fiscally responsible standard. This significant expense thus represents a speculative incremental cost of National Defense compliance initiative implementation in the absence of such an accounting and reporting standard, but it will be incurred to some extent with the passage of any but the most permissive standard. Referencing Table 5-3, this speculative cost potentially equals as much as 343.8% of the total current projected Data Warehouse resource requirement

of $14.544 million for implementation and sustainment costs from FY 2000 through FY 2005. For National Defense Assets, without the existence of an enforceable accounting and reporting standard and only the preliminary development of systems alternatives, this speculative cost of complying with an emergent standard represents not merely a material factor in the National Defense compliance initiative full cost estimate, but the predominant one.

4. The Speculative Price of Compliance

Table 5-6 illustrates the full cost of compliance, as determined within the scope and constraints of this thesis, for DoN PP&E nonfinancial feeder systems from initiation in FY 1999, or FY 2000 for National Defense PP&E, through FY 2005. Real Property, Personal Property, and National Defense compliance initiative costs are divided into implementation and sustainment costs, where applicable, and totals include past, present, and projected funding requirements that can be tracked specifically by the Navy to appropriations, and material speculative costs that either are beyond DoN capabilities to trace or are outside the current scope of implementation strategies. The previously discussed speculative implementation cost totals for Personal Property are apportioned approximately among fiscal years based upon the Navy's DPAS site implementation schedule, and the National Defense speculative implementation cost is evenly apportioned from FY 2001 through FY 2003 based upon the DoN target timeframe for completion. Sustainment costs for Personal Property and National Defense initiatives should continue beyond FY 2005 at approximately the given amounts. Through a comparison with the total PP&E current cost estimate on Table 5-5, which considers only projected resource requirements, the total PP&E price of compliance including

Department of the Navy Speculative Full Cost Estimates of PP&E Nonfinancial Feeder System							
Compliance Initiatives ($ In Thousands)							
Compliance Initiative	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Real Property (NFADB)							
Implementation Costs	750	1,000	1,210	720	732	0	0
Sustainment Costs	0	0	0	0	0	0	0
Total Costs	750	1,000	1,210	720	732	0	0
Personal Property (DPAS)							
Implementation Costs	7,113	12,562	11,617	11,480	11,395	0	0
Sustainment Costs	600	600	1,550	1,060	1,075	1,089	1,103
Total Costs	7,713	13,162	13,167	12,540	12,470	1,089	1,103
National Defense (Data Warehouse)							
Implementation Costs	0	750	21,067	17,183	19,291	0	2,100
Sustainment Costs	0	0	800	815	830	846	863
Total Costs	0	750	21,867	17,998	20,121	846	2,963
Total, PP&E Implementation Costs	7,863	14,312	33,894	29,383	31,418	0	2,100
Total, PP&E Sustainment Costs	600	600	2,350	1,875	1,905	1,935	1,966
Total, PP&E Price of Compliance	8,463	14,912	36,244	31,258	33,323	1,935	4,066

Table 5-6. DoN Speculative Full Cost Estimates of PP&E Nonfinancial Feeder System Compliance, FY 1999 – FY 2005

speculative costs represents 235.1% of the noninclusive estimate, demonstrating the potential impact of such invisible or unanticipated costs and the importance of planning for their contingencies in an environment of fiscal constraint.

H. SUMMARY

From a DoN perspective, the price of PP&E nonfinancial feeder system compliance proves difficult to ascertain with high levels of confidence. As a result, the Navy has not committed to funding the resource requirements for the implementation and sustainment of the initiative outcomes in a manner aligned with relevant cost projections. Some elements of the implementation strategies' full costs lie outside the Navy's current capability to capture, due to the complexities of program funding and budgetary accounting practices and reporting. Ironically, the Navy lacks the financial and nonfinancial systems to collect and report cost information on an accrual basis or by program from across appropriation groups for determining the full cost of achieving compliance with these very systems. Thus, this thesis uses DoN projected resource requirements for the implementation and sustainment of systems in conformity with federal reporting requirements and accounting standards for examining "the price" of PP&E nonfinancial feeder systems compliance.

Real Property costs the least to achieve compliance and receives the strongest level of funding commitment due to the continuity of the Naval Facilities Asset Database (NFADB), continuing to serve after modification as the Real Property PP&E nonfinancial feeder system. Personal Property compliance, in contrast, comes at an exponentially higher cost due to the substantially greater complexity of implementing the Defense Property Accountability System (DPAS) throughout the Navy as the sole Personal

Property nonfinancial feeder system. The complete replacement by DPAS of hundreds of noncompliant, stovepipe systems, however, will effect a fundamental change in DoN business practices, but funding is thus far not committed for future costs of sustaining the integrated system functions. National Defense compliance differs from either previous implementation paradigm, with the inherent complexity and challenge of a unique systems structure implementation not comparatively reflected in the projected funding requirements. The uncertain scope of the modifications required to existing nonfinancial feeder systems, the preliminary development stage of the data warehouse system, and the lack of National Defense accounting and reporting standards also render the resulting cost estimate comparatively unreliable.

The estimate's demonstrated volatility explains the Navy's reluctance to commit funding to the National Defense PP&E compliance initiative. This variance observed in cost estimates, to an extent for each category of assets, represents a material factor itself in any attempted determination of the price of compliance. While existing program funding and budgetary accounting methodologies preclude accurate estimates of full costs, speculation on the significance and amounts of untracked but material cost elements provides a more realistic determination of full costs and demonstrates the potentially destabilizing impact of such costs to program execution in the absence of a capability to plan for or anticipate them.

The following and final chapter concludes the thesis. With this examination of the price of implementing and sustaining the outcomes, and its established relationship with the complexities and progress achieved in executing the respective PP&E Working Groups' compliance initiatives, closure centers on these factors' greater significance to

successful completion. Also, the final chapter considers the multitude of opportunities for further research in the area of DoN nonfinancial feeder system implementation strategy, a field of paramount importance in the establishment of auditable financial statements and a sustainable, integrated financial management system.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. THESIS SUMMARY

This thesis examined the costs of achieving PP&E nonfinancial feeder system compliance within the DoN, as well as the comparative progress achieved by distinct compliance initiatives. These DoN compliance initiatives resulted from directives contained in the DoD Implementation Strategies and Biennial Financial Management Improvement Plan (BFMIP), themselves a response to unprecedented legislative mandates for federal fiscal reform. With the DoN controlling approximately 50 percent of DoD PP&E assets, and with an estimated 80 percent of the financial data required to prepare auditable financial statements originating in these systems, few if any subjects prove more relevant to achieving the objectives of this legislation.

Chapter II first established the significance of nonfinancial feeder systems in the context of interrelated congressional legislation enacted over the past decade requiring federal agencies to institute corporate business practices, emphasizing proper reporting of financial data and production of auditable financial statements. The Chief Financial Officers Act of 1990 initially set out the framework for federal financial management reform that required the integration of accounting and financial systems, the publication of financial reports, and the establishment of chief financial officers in ten departments and agencies. The Government Performance and Results Act of 1993 additionally called for annual performance plans and reports to measure outcomes. The Government Management Reform Act of 1994 expanded the requirements of all fiscal reform legislation to encompass all 24 federal agencies, with an FY 1997 deadline for the first

consolidated government-wide financial statement. Mandates for the disclosure of all financial data through integrated, CFO-compliant systems, as well as the status of all noncompliant systems, resulted from the Federal Financial Management Improvement Act of 1996. This prompted the requirement within the FY 1998 Defense Authorization Act for the BFMIP itself, addressing all aspects of DoD financial management but specifically targeting what became recognized as the predominant obstacle to compliance: at least 70 nonfinancial feeder systems critical to asset accountability and financial reporting requirements, that were neither intended to comply with accounting standards nor to integrate with DoD financial management systems, and were incapable of doing so.

Chapter III focused on DoD PP&E nonfinancial feeder systems, determined by this thesis as the most critical due to both their collective responsibility for over $1 trillion in assets and their vital importance to operational military commands in direct support of mission requirements and successful mission execution. From a financial management perspective, however, pervasive feeder system deficiencies are largely responsible for federal auditors' disclaimers of opinion on DoD financial statements, while PP&E dispersion, volume, and diversity exacerbate difficulties in resolving accountability and reporting issues. DoD developed short-term Implementation Strategies beyond the BFMIP to address the deficiencies and employ interim measures to achieve compliance with federal financial management legislation.

This chapter examined the major PP&E categories of Real Property, Personal Property, and National Defense Assets, collectively defined in Statements of Federal Financial Accounting Standards Nos. 6 and 8. Auditors determined that the Real

Property databases maintained materially reliable and accurate data, but systemic Personal Property database weaknesses required a strategy modification and the deployment of the Defense Property Accountability System (DPAS) as the sole DoD-wide replacement. At the DoD level, National Defense Asset requirements for accountability and reporting remained an unresolved, controversial issue of potentially tremendous fiscal magnitude.

Chapter IV narrowed still further in focus to the DoN, separately evaluating the progress achieved thus far under PP&E nonfinancial feeder system initiatives, in the context of both the different obstacles to compliance in the three asset categories and the Navy's organizational strategy for confronting them. In response to DoD Implementation Strategies, DoN formed three unique high-level, subject-matter expert Working Groups to specifically address the feeder system deficiencies within the Real Property, Personal Property, and National Defense Asset PP&E categories. The subsequent measures of progress among the teams, however, and thus the current status of their respective compliance initiatives, contrasted significantly due to divergent levels of data reliability and accuracy, extant feeder system deficiencies, and complexity in implementing solutions.

For Real Property, the Navy possessed an existing, compliant nonfinancial feeder system, NFADB, containing materially reliable and accurate data and requiring comparatively minor modification and expansion. The compliance initiative for this category thus has progressed the farthest, with expectations of certification and operational capability in FY 2001. Personal Property presented a significantly more complex challenge, centered on the Navy-wide transition from numerous and diverse

noncompliant systems with defective data to DPAS, a single, integrated, and unfamiliar nonfinancial feeder system. Recurring institutional resistance to change, personnel resource shortfalls, and technical conflicts plague implementation as a result, but measurable progress continues toward the official FY 2003 estimated completion. National Defense Assets, with no enforceable accounting or reporting standards, no evaluation of critical systems and data compliance status, and remarkable material deficiencies, presented the highest levels of complexity and uncertainty. Compliance initiative progress reflected this adversity, still limited to assessment of a potential alternative to the current labor-intensive accounting and reporting systems structure, and thus far lacking specific parameters or standards for implementation.

Chapter V maintained the thesis focus on the three PP&E nonfinancial feeder systems, but transitioned to a comparative examination of the costs resulting from implementing and sustaining the compliance initiative outcomes. "The price" of compliance proved impossible to determine with high confidence levels, due to the transient status of initiatives, program funding and budgetary accounting practices, lack of current DoN system capabilities to capture full costs, and thesis time and resource constraints. However, while specific factors precluded precise estimates of full costs, the inclusion of speculation on the significance and amounts of untracked but material cost elements provided a more realistic determination of full costs and demonstrated their potentially destabilizing impact.

Using DoN projected resource requirements for systems implementation and sustainment to study the costs of compliance, this thesis predictably found the Real Property modification and expansion of the NFADB to cost the least, attributable to the

limited extent of the deficiencies and the requisite solutions. Personal Property compliance, in contrast, comes at an exponentially higher cost because of the complexities in DPAS' replacement of all previous databases and the resulting shift in DoN business practices. National Defense cost estimates for the Data Warehouse alternative did not directly correspond to the complexity of the implementation solution, as with Real and Personal Property, or the magnitude of the assets' valuation. However, substantial uncertainty pervades these estimates, due to the preliminary stages of determining data warehouse parameters and existing system modification, as well as the lack of conclusive National Defense accounting and reporting standards. Inclusion of this speculative cost, in particular, is imminently relevant to current and future DoN funding requirements, and such a cost will be incurred to some extent with the passage of any but the most permissive standard.

B. CONCLUSIONS

Thesis conclusions center appropriately upon the price, the progress, and the eventual success of DoN PP&E nonfinancial feeder systems compliance initiatives. From a general perspective, these efforts specifically address the requirements of DoD Implementation Strategies, the relatively short-term development of interim methodologies for achieving a level of compliance sufficient to obtain a more favorable audit opinion on consolidated financial statements until the sustainable financial management systems and objectives of the BFMIP are realized and operational. Pervasive, complex financial management problems will remain, however, and the DoN must maintain the reform momentum beyond the unqualified opinions and

Implementation Strategies if it is to institute systems and processes that provide consistent, reliable financial information vital to senior decision makers.

That said, DoN senior financial management leadership effectively recognizes the critical necessity to simultaneously address the greater sustainment issues articulated in the BFMIP and legislative reform mandates. For the first time, an unprecedented strategic imperative to establish long-term financial management solutions and best business practices is expected to achieve implementation, an imperative given unparalleled legitimacy by engagement of both independent private sector accounting firms and the government audit community in a collaborative effort. The Navy's organizational strategy, permitting consideration of cross-functional and private sector solutions, resulted in the formation of well-resourced, functional expert Working Groups intrinsically motivated to develop and implement best, potentially revolutionary, business practices. Interestingly, the DoN's unique inclusion of audit community representatives within its Working Groups may prove to be one of the most valuable aspects of this organizational strategy, by incorporating the validation of alternative compliance measures from their perspective at every stage of consideration.

1. Real Property

The compliance initiative entailing the modification and expansion of the NFADB represented an ideal situation for achieving compliance, at least in the context of short-term objectives. The presence of an operational, substantially compliant nonfinancial feeder system containing materially reliable and accurate data on a well-established asset category proved critical to the comparatively extensive progress achieved and reduction in implementation costs.

Beyond this central significance to the successful completion of the Real Property compliance initiative, NFADB's preservation also harnessed the goodwill and contribution of the civil engineering and public works personnel required to maintain the database, or its replacement. This powerful intangible factor resulted in their full-scale adoption of and participation in the implementation strategy to achieve compliance with federal accounting and reporting requirements, beginning with the Navy Engineering Officer chairing the Real Property Working Group. Real Property progress and resource requirements may also illustrate then, that securing the intangible support of the operational community with minimal disruption to operations proved to be a good investment.

2. Personal Property

The Personal Property compliance initiative, in contrast, apparently represented a worst-case scenario for successful implementation. Indeed, with the replacement of over a hundred noncompliant nonfinancial feeder systems at over nine hundred activities by a single system entirely new to the Navy, DPAS implementation complexity exists on a higher order of magnitude than that for NFADB modification. The limited progress and enormous, escalating cost of DPAS implementation in comparison to NFADB result directly from the unparalleled scope of the Navy effort, which will fundamentally revolutionize Personal Property accounting and reporting with the singular DPAS standard throughout the DoN.

Price and progress remain the basic, tangible or measurable factors for evaluation of DPAS implementation success, but intangible elements apparently possess a substantial and adverse influence over them that threatens the viability of the FY 2003

target completion date. Unlike the NFADB situation, where modification of an existing, familiar system garnered the support of the operational communities, none of the multitudes of Personal Property reporting activities retained the use of the nonfinancial feeder systems specifically developed to support their respective mission requirements. Institutional resistance to change, resource shortfalls, and technology impediments are all manifestations, to an extent, of apathy or antipathy to the disruptive DPAS transition, all potentially overcome by reporting activity commitment to, and DoN emphasis of, this priority. In their absence, these ultimately human factors wield a growing and detrimental effect over progress, funding requirements, and effective completion.

The DoD-wide scope of the DPAS implementation also limits DoN's capability to influence the price and progress of the compliance initiative. With the DPAS transition ongoing across the military components and defense agencies, and the tremendous diversity of Personal Property reporting activities within them, DPAS cannot yet answer all user accounting, reporting, and mission requirements. The Defense Logistics Agency (DLA) controls modifications to DPAS, but a forum of DoD component and agency users, where DoN objectives must necessarily be compromised, prioritizes such upgrades. DLA time and personnel resource constraints affect DPAS modifications, but cost is not relevant, and thus provides no potential incentive to increase efficiencies. Also, further "upgrades" that increase functionality to meet other users' requirements may ironically exacerbate the already-noteworthy cumbersomeness attributed to DPAS operation for its multifunctional capacity.

The correctness of the DoN decision to deploy DPAS to achieve compliance with federal financial management system requirements over attempting to modify hundreds

of stovepipe systems remains indisputable. However, the complexities of DPAS implementation, from its unprecedented extent to its disruptive cultural and procedural impact to its bureaucratic systems administration, threaten to render completion in FY 2003 an improbable objective.

3. National Defense

a. Specific Conclusions

This thesis repeatedly examined National Defense cost estimates and progress using the comparative framework of Real and Personal Property initiative assessments, which ostensibly represented the situational extremes confronting the implementation of nonfinancial feeder system solutions. This format provided a foundation upon which to consider the DoN National Defense PP&E compliance initiative. National Defense Assets presented the greatest complexity and challenge due to the lack of evaluations on existing systems and data, the lack of a functional replacement for them, and most importantly the lack of conclusive accounting and reporting standards. This thesis considers the undiminished magnitude and pervasiveness of the system, data, and accounting and reporting deficiencies in National Defense to jeopardize the credibility of the DoN financial management reform effort and the legitimacy of progress achieved on other, lesser fronts. We have saved the worst for last.

During the course of conducting thesis research, the Navy selected to pursue implementation of the Data Warehouse Option over three other potentially viable alternatives under consideration. This decision was made with cognizance of the known legislative requirements for an integrated system capable of compliant interface with financial systems, but in the continued absence of any further conclusions regarding the

precise accounting and reporting standards to be adopted and enforced. After a comparative overview of all four compliance initiative alternatives, and again using Real and Personal Property initiatives as a framework for evaluation, this thesis concluded that implementation of the Data Warehouse Option constituted the best course of action for two principal reasons:

1) It capitalizes on the intangible advantages gained in harnessing the participation of the operational communities, demonstrated in the Real Property initiative, by leaving existing, performing systems in place with minor modification and consolidation; and

2) It avoids the potentially prohibitive costs and the certain operational disruption, as unavoidably experienced with consequent adverse impacts in the Personal Property initiative, of developing and/or imposing an unfamiliar replacement system upon those same communities.

Mr. Greg Barber, the coordinator of all 13 DoN Implementation Strategy Working Groups under the Assistant Secretary of the Navy (Financial Management and Comptroller), succinctly characterized the Data Warehouse decision as "the path of least resistance:" [Ref. 33] it achieves federal requirements for integration, minimizes risk to current operations, and demonstrates progress within time and cost constraints.

b. Proposal

As a result of these conclusions, this thesis proposes a DoN strategic initiative to account for and report National Defense PP&E in the absence of federal accounting standards. Such an initiative might begin with a change in the definition of National Defense PP&E to further simplify the still-undeveloped parameters and

functional requirements for a data warehousing system. The current definition, as it is proposed, considers National Defense Assets:

> The PP&E components of weapon systems and support PP&E used by the Military Departments in the performance of military missions, and vessels held in preservation status by the Maritime Administration's National Defense Reserve Fleet [Ref. 34]

Two observations arise:

1) When considering the vast diversity of what might comprise a "military mission," and thus what support PP&E must then be considered National Defense Assets, the possibilities are veritably limitless across the PP&E spectrum; and

2) Some weapon system components may arguably not be considered PP&E, and more appropriately accounted for as another form of asset.

Referencing Tables 4-2 and 4-3, two categories of National Defense PP&E merit scrutiny under these considerations. First, Weapons Systems Support, as reported by DoN, is comprised solely of active ammunition bunkers, the purpose and nature of which is self-explanatory. These bunker buildings, associated structures, and surrounding land qualify in every respect as Real Property, and should be accounted for and reported as such. Second, Guided Self-Propelled Ordnance, comprised entirely of missiles and torpedoes, represents a high cost, high technology extension of a basic category of Operating Materials and Supplies (OM&S), ammunition and munitions. Missiles and torpedoes likewise qualify in every respect in an alternate functional category, albeit as "smart" examples: their use is one-time and essentially instantaneous, with an expected shelf-life after which they are considered unusable if not expended, thus

preventing depreciation on any rational basis. As a result, they should be accounted for and reported as munitions, a component of Operating Materials and Supplies valued at latest acquisition cost and expensed using the consumption method of accounting for expense recognition. [Ref. 16:p. 61] This reclassification in no way affects safeguards or accountability measures.

This material realignment of National Defense Assets permits the establishment of a vastly more concise definition, specifically limited to PP&E weapon systems platforms, weapons systems delivery platforms and components, and PP&E systems and components used by the Military Departments in support of such platforms. The remaining National Defense Assets, which all possess measurable service life expectancies and salvage value, and do not potentially belong in another redundant or overlapping asset category, may now be accounted for in a manner similar to that of Personal Property. Assets valued over an established capitalization threshold will be depreciated, and the remainder expensed.

The rationale behind this concise National Defense Asset definition supports the accounting and reporting aspect of this proposal, an aspect that has and may continue to oppose DoD and DoN official positions and practices in this regard. Specifically, this thesis proposes that both the current inadequate reporting of National Defense Asset numbers and annual expenditures, and the SFFAS No. 8 additional reporting of either historical cost or latest acquisition cost, be discarded as fiscally irresponsible. In their place, National Defense PP&E accounting and reporting standards should rise to those required for General PP&E:

1) The recording of acquisition costs, to include costs incurred to establish full operational capability, and subsequent depreciation; or

2) The estimation of costs, when historical cost of existing assets is indeterminable, based upon either the known historical cost of similar assets at acquisition or the current cost of similar assets adjusted for inflationary effects since the date of acquisition.

Such a proposal comes with the recognition that the price of compliance will doubtlessly exponentially increase, due entirely to efforts required to establish or estimate historical costs and depreciation for current National Defense PP&E. Past estimates place the price for meeting this standard of accounting and reporting at up to $100 million for the DoD, and thus up to $50 million for the DoN, from a rough approximation of the percentage of National Defense Assets value controlled. While this amount may initially appear prohibitively expensive, it approximates only .19% of the total $26.202 billion DoN will spend on the procurement of National Defense Assets alone in FY 2001. [Ref. 35:App. B-1, B-11 – B-15] Additionally, consider that the proposed accounting and reporting standard represents the most stringent possible reporting requirements that the FASAB might impose. Last, and perhaps most significant, consider the value the DoN might be willing to place on specific intangibles: unparalleled financial management system clarity and integrity among the DoD components and agencies; the trust and confidence of Congress, federal managers, and the American taxpayers for superior financial information and demonstrated accountability for the use of tax revenues; the enhanced capabilities of Navy operational commanders and senior leadership to make more proactive and more responsive

and resource requirements based firmly upon reliable, accurate, visible data. From the perspective of thesis conclusions, such an initiative appears to constitute a sound investment.

C. RECOMMENDATIONS FOR FURTHER RESEARCH

The magnitude and prioritization of financial management reform in general throughout the DoN and the DoD, and of nonfinancial feeder system reforms in particular, establishes a multitude of opportunities for valuable research at the forefront of a revolution in business affairs. Specific recommendations for research as a consequence of this thesis include:

1) The "Y2K" process for nonfinancial feeder system compliance;

2) Development of a full cost reporting methodology;

3) Comparative analyses of subsequent compliance initiatives; and

4) Enterprise Resource Planning (ERP) systems.

1. Y2K Process

The Defense Management Council approved the establishment of a "Y2K" process at the DoD level to direct and monitor feeder system compliance initiatives, to ensure prioritization of measures that result in such systems meeting federal financial management requirements. Subsequently, the Deputy Undersecretary of Defense directed the formation of the Financial Management Oversight Council to oversee the required efforts, with an additional subordinate supervisory layer, the Systems Compliance Working Group, instituted by the Under Secretary of Defense (Comptroller). [Ref. 36, 37] The proposed Financial and Feeder System Compliance Process adds to the

previously imposed BFMIP structure a five-phase approach with defined phase exit criteria to achieve compliance.

From the DoN perspective, these additional layers of bureaucracy raise distinct concerns. Navy progress, in many instances, already outpaces the structure of the process, having successfully skipped steps in previous phase definitions. For the DoN, the constraints potentially imposed by the process threaten to slow current reform momentum in unnecessary or cumbersome administration. Also, the Navy's unique collaborative efforts with government auditors and private sector accounting firms are not a component of the DoD process, with their absence opening the possibility for costly compliance initiatives to fail final validation tests. [Ref. 38] Thesis research examining the costs and benefits of the Y2K process implementation may have a material impact on the future progress, or lack thereof, in feeder system compliance.

2. Full Cost Reporting

As discussed in the context of this thesis, the complexities of program funding and budgetary accounting practices preclude determination of the full cost of implementing DoN nonfinancial feeder system reforms. This deficiency affects the full spectrum of transactions executed throughout the Navy, resulting in financial data still based upon budgetary obligations, disbursements, and collection transactions, as well as other cash basis measures. No adequate capability exists to separate the direct or indirect labor costs of military or civilian personnel, specific materiel costs, overhead and common costs, or non-recurring costs outside appropriation groups and General Fund activities for monitoring budget execution. Thesis research on the conceptualization or development of a methodology or system to collect and report financial information on a

full cost accrual basis by program and across appropriation groups may prove material to the Navy's preliminary efforts to comply with SFFAS requirements for cost information and potentially revolutionize cost estimation capabilities.

3. Subsequent Initiative Comparisons

This thesis' examination of the price and progress of DoN nonfinancial feeder system compliance initiatives is by no means conclusive, rather representing an initial inquiry into a dynamic reform effort of paramount importance in the establishment of auditable financial statements and a sustainable, integrated financial management system. The efforts of ten other DoN Working Groups, currently underway addressing issues identified in the BFMIP and the DoD Implementation Strategies for auditable financial statements and integrated financial systems, fell beyond the scope of this thesis, as well as comparable reform efforts by other Military Components and defense agencies. Further thesis research on these and subsequent compliance initiatives, potentially using this thesis' methodology for comparative analysis, may provide a perspective or independent assessment resulting in improvements among future initiatives and providing a vehicle for addressing controversial or entrenched problems remaining.

4. Enterprise Resource Planning Systems

Currently, despite selection of the Data Warehouse Option over the ERP option among National Defense PP&E alternative approaches, the DoN possesses a strong focus toward the ERP fully integrated systems approach as a complement and perhaps ultimate successor to current efforts. Such a system would enable the automation and integration of business processes, using common data, throughout the Navy. [Ref. 17:p. 26] Ms. Gladys Commons, Principal Deputy Assistant Secretary of the Navy (Financial

Management and Comptroller), stated that ERP is conceptually exactly what the DoN is looking for in terms of its full spectrum integration, rendering the system transparent to all disparate operational communities. [Ref. 39]

ERP projects in the private sector have yielded tremendous results in terms of both operational and management performance, and high priority ERP pilot projects are now underway within DoN at NAVAIR, NAVSEA, SPAWAR, and the Navy Working Capital Fund. Thesis research conducting an objective, comparative analysis of the approaches, progress, and outcomes of the respective pilot projects may represent a major contribution to long-term DoN efforts to implement a Navy-wide ERP paradigm for processes and systems.

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8. Professor John E. Mutty, Code SM/Mu 1
   Department of Systems Management
   Naval Postgraduate School
   Monterey, CA 93943-5103

9. Mr. Gregory Barber.....1
Department of the Navy Organization Management and Infrastructure Team
2 Navy Annex, Rm. 4101
Washington, DC 20370-5245

10. Mr. Warren Pfeiffer.....1
Office of Financial Operations (OASN FM&C)
720 Kennon St. SE Rm. 115
Washington Navy Yard, DC 20374-5025

11. Mr. Steve H. Burks.....1
P.O. Box 16671
Boise, ID 83715

12. Ms. Nancy J. Natividad.....1
12 Windemere
Bentonville, AR 72712

13. Captain Michael S. Burks.....1
11714 Falcon Ridge Dr.
Fredericksburg, VA 22407